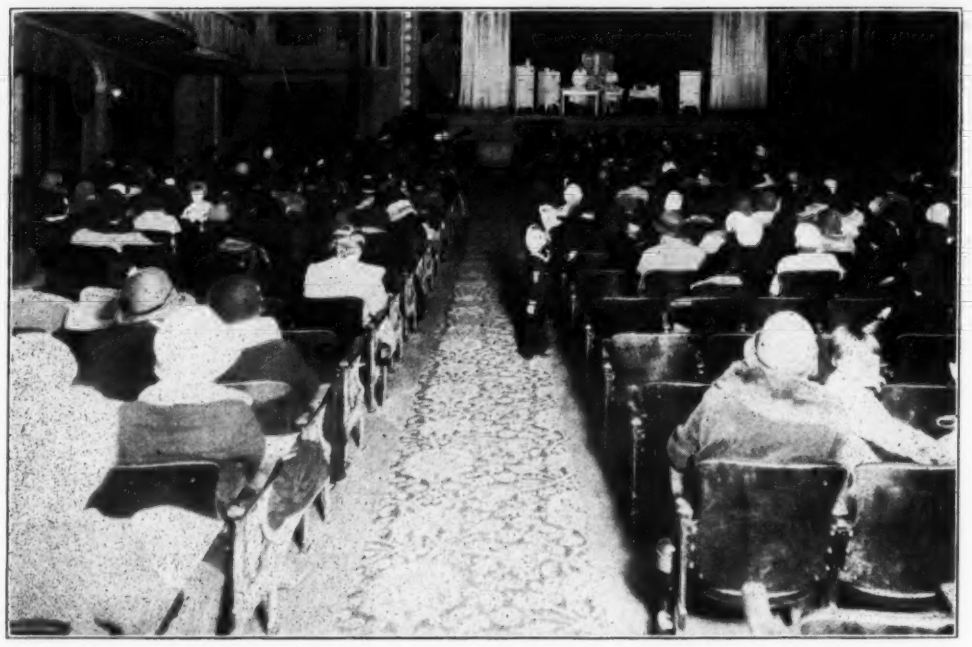
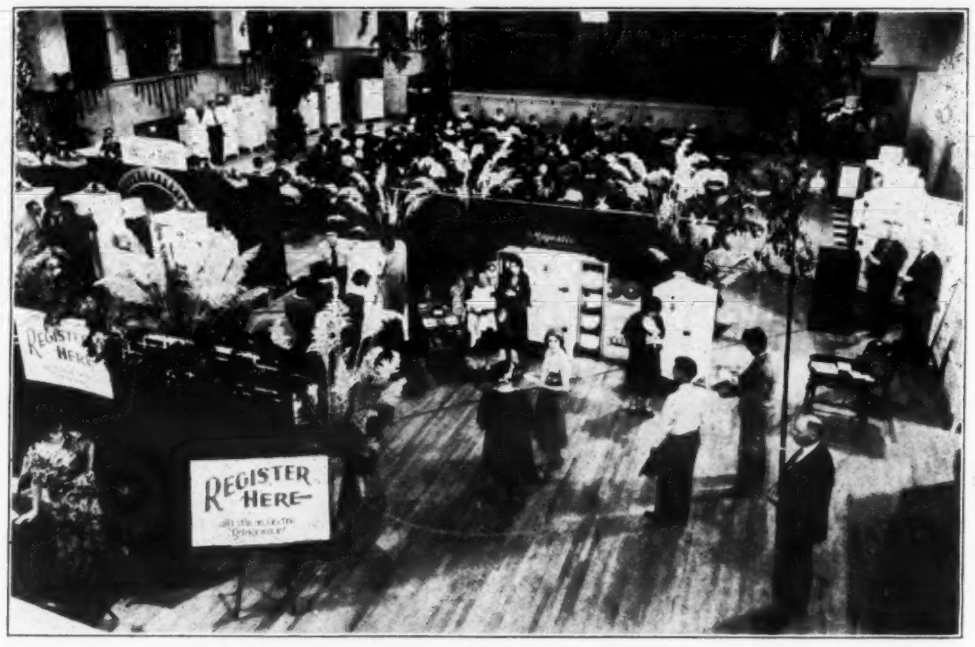
Crowds Attend Electric Refrigeration Bureau Activities

Betty Crocker and Her Audience



More than a thousand women attended the home economics demonstration conducted by the St. Cloud, Minn., bureau as a part of Electic Refrigeration week. Betty Crocker, home economist for General Mills, was in charge of the one-day school.

A Glimpse of Wichita Show



Wichita housewives attended the various sessions held in connection with the refrigeration show presented by the Wichita bureau. Programs, which included talks on refrigeration and demonstrations, were features of the exhibit.

Runs Away with Norge Marathon

Fred Satterfield, senior national junior Olympic champion, won the Norge 4-mile marathon in Los Angeles. The race ended at the door of the Los Angeles refrigeration show. The marathon was sponsored by Joseph Herzstam, president of Norge Pacific Co.

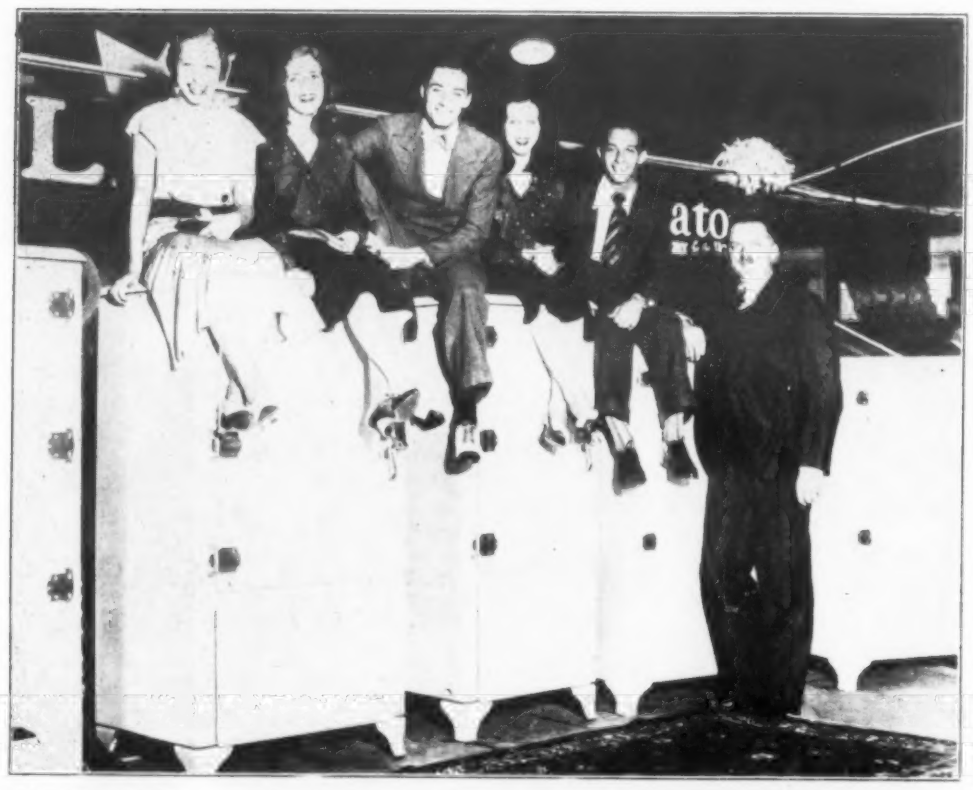
Program Head

M. C. Clay, secretary-manager of the Electrical League of Washington, D. C., was in charge of the recent refrigeration show at the national capital and has planned many of the bureau activities for the year.

For Chicagoans' Inspection

Two beautiful girls watched over the throngs of people from the Kelvinator exhibit in the recent refrigeration show which was held in the electric shop of the Commonwealth-Edison Co. Thousands of Chicagoans viewed the large exhibit of electric refrigeration.

Vaudeville Stars Add to Program



R-K-O vaudeville stars found a place on the program at the show sponsored by the Portland, Me., Electric Refrigeration bureau. Roy E. Holden, chairman of the bureau, is standing at the right while the stage stars pose on top of the electric units.

On the Air from Portland

On the air with the latest in electric refrigeration news. Programs are broadcast by this Hawaiian string trio and sponsored by the Portland, Me., bureau. Guy G. Smith, secretary and program director, is at the left making an announcement.

Written to be Read On Arrival

Merchandising Section

In Two Parts Part One

ELECTRIC REFRIGERATION NEWS

Registered U. S. Patent Office.

The business newspaper of the refrigeration industry

ISSUED EVERY WEEK
VOL. 6, NO. 11, SERIAL NO. 139

Copyright, 1931, by Business News Pub. Co.

DETROIT, MICHIGAN, NOVEMBER 18, 1931

Entered as second class matter Aug. 1, 1927, at Detroit, Mich.

TEN CENTS PER COPY
TWO DOLLARS PER YEAR

PLAN COMMITTEE APPROVES SALES PROMOTION ITEMS

Bureau Group Puts O. K. On Magazine Ads, Posters, Books

DAYTON—Details of the 1932 Electric Refrigeration Bureau campaign were worked out at a meeting of the plan committee here, Nov. 10.

Magazine advertising layouts and partial copy for the first six months of 1932 were approved, as well as the new sales promotional items. The promotional items include outdoor posters, tire covers, truck banners, envelope stuffers, and plan books.

The approval of details by the plan committee followed the approval of the campaign by the executive committee at a meeting in New York City, Oct. 28.

Plans for sales promotional material for special sales periods, cooperative exhibits, and contests were discussed and action taken to carry them out. Newspaper mats and proofs for local bureaus were approved.

The meeting was held in the Van Cleve hotel and the committee members were guests of Frigidaire Corp.

Members of the committee attending were: M. E. Jacobs, Nebraska Power Co., chairman; Marshall Adams, Westinghouse Electric & Mfg. Co.; G. W. Allison, field manager; G. N. Brown, manager of Electric Refrigeration Bureau; Miss Eloise Davidson, N.E.L.A.; E. D. Doty, Frigidaire Corp.; A. M. Taylor, Kelvinator Corp.; and W. E. Underwood, Lord & Thomas and Logan.

Walter Daily, General Electric Co.; W. H. Hodge, Byllesby Engineering and Management Corp., and A. C. Watt, Commonwealth and Southern, were absent from the meeting.

NEED FOR UTILITIES EXPLAINED BY SLOAN

PHILADELPHIA — "This country, wealthy and powerful as it is, could not take over and operate the electric utilities on any basis of sound business," declared Matthew S. Sloan, president of The New York Edison Co., in an address on "Our Electrical Future," delivered here before the American Academy of Political and Social Science.

The greater part of the address was devoted to the development of electrical service to the community through technical advances and the evolution of small operating companies into larger units through merger in order to enable the industry to give efficient and economical service.

"The small company could not do the job," he said. "It has not the resources—technical, physical, financial—to supply the type of service necessary and properly to develop its market. It could not get them."

Admitting that mergers sometimes offered opportunity to the exploiter, and that the utilities have had the exploiter, as well as other lines of business, he declared that "merger and holding company control have made possible operating economies and new financing for growth which yielded the electric service of today, gridironing the land.

"Despite occasional incapable management and occasional crookedness, this job could have been done by no other means in so short a time.

"Economically, this process has justified itself. Therefore it will continue," Mr. Sloan said. "It must continue if utilities are to do the job of the future.

(*Concluded on Page 4, Column 4*)

BILL WOULD BAR UTILITIES SELLING IN WASHINGTON

SPOKANE, Wash.—A bill stopping merchandising of electric refrigerators, stoves, and other appliances by public utility organizations will be introduced in the state of Washington legislature by the Retail Furniture Association of Washington.

The measure will be sponsored by the special public utilities committee of the association which decided on the action at a meeting here recently.

Furniture dealers will ask that public utilities and municipal utilities be prevented from engaging in competitive merchandising.

New Gibson Executives Arrive at Greenville

Gibson executives greet new sales managers. Left to right: W. R. Marshall, sales promotion manager; Charles J. Gibson; F. A. Delano, general sales manager; Frank S. Gibson, Jr.; H. H. Bailey, western sales; John Lewis.

Sales in St. Louis 20,751 to Oct. 1

NEW YORK—Sales of the St. Louis Electric Refrigeration Bureau to Oct. 1 had totalled 20,751 units, or 180.43 per cent of the yearly quota, figures compiled by the national offices show.

Kansas City Power & Light Co. sold 8,335 units up to the same date, or 127.58 per cent of its quota, while the Missouri Public Service Co. had sold 365 refrigerators, 121.66 per cent of its quota.

HUDSON NEW MANAGER OF BIRMINGHAM ELECTROLUX

BIRMINGHAM, Ala.—William A. Hudson has taken the position of general sales manager of the Birmingham Gas Co., Electrolux distributor here. He has charge of all sales activities, both domestic and industrial and suceeds George H. Schlalter.

Hudson has been in the gas industry for several years after graduating from Vanderbilt University in mechanical engineering. He joined the present company in 1925 when it was a subsidiary of the Birmingham Electric Co. In 1929 the subsidiary was made a separate organization and Hudson was appointed manager of the industrial department.

He has held this position until his promotion to general sales manager. At one time, he was connected with Westinghouse in Pittsburgh.

MAYFLOWER SALES INCREASE IN SOUTHERN CALIFORNIA

LOS ANGELES—An increase of better than 500 per cent over last year has been recorded in the sales of Mayflower refrigerators in the southern California territory, according to L. Lyons, district manager for Kieruliff & Ravenscroft, Mayflower distributor.

A total of 5,400 units has been sold from Feb. 15 to Oct. 15, as compared to 1,000 units recorded for a similar period last year.

During the first two days of the recent refrigeration and radio show in Los Angeles, 14 new dealers were added to the Mayflower organization, Mr. Lyons reports.

McDERMOTT SALES MANAGER FOR PROVIDENCE DEALER

PROVIDENCE, R. I.—Charles McDermott, formerly chief electrician at the Chevrolet plant of General Motors, Detroit, has been made sales manager of the C. & K. Electric Co., here, distributor of Westinghouse electric refrigerators.

Kansas Utility Act Upheld by Court

KANSAS CITY, Kans.—Constitutionality of the Kansas state law preventing public utilities from selling appliances and equipment was upheld recently by the Shawnee County District Court in test suits instituted by 10 Cities Service subsidiaries.

The case will be appealed to the supreme court.

The county court held that a reading of the entire act could "leave no doubt that what the Legislature was intending to prohibit was the manufacture and sale of merchandise by utilities."

It ruled that the state has the power to take away from the utilities any or all of their corporate franchises and that under this power, the right to sell appliances could be denied.

The Cities Service Co. had claimed that the sale of equipment and appliances for the use of natural gas and the servicing and repairing of the articles were incident to adequate and proper distribution and sale of fuel.

The utility also contended that the terms of the act were ambiguous.

Graves Shoots 'Way Over 1931 Quota

KANSAS CITY—On Armistice Day Guy A. Graves, salesman for the R. E. Parsons Co., Frigidaire distributor, reached 150 per cent of his 1931 quota, which called for $45,000 worth of household business during the year.

Mr. Graves reached his quota for the year on June 27.

He will be one of Kansas City's representatives at the annual Frigidaire Quota Club Congress which will meet in Dayton, Ohio, early in 1932.

NORGE ADDS FOUR NEW MEN TO DIRECT SALES FORCE

DETROIT—Four additions to the direct field sales personnel by the Norge Corp. have been announced by John Knapp, vice president in charge of sales. The new divisional managers are E. S. Ridgway, F. O. Fleischer, J. J. Davin, and J. R. Blocher.

ERLANDSON HAS NEW JOB WITH GRIGSBY-GRUNOW

CHICAGO—Ray S. Erlandson, former director of broadcasting activities for Grigsby-Grunow, assumed the position of assistant to the general sales manager Nov. 6.

'31 Norge Sales 533% Ahead of 1930

DETROIT—Sale of Norge electric refrigerators for the first 10 months of 1931 are 533 per cent above sales for 1930, according to John H. Knapp, vice president and director of sales of Norge Corp.

During October, sales were 892 per cent, as compared with October, 1930. This was the tenth consecutive monthly gain since the first of the year.

DISTRIBUTOR J. O. MORRIS BURIED TUESDAY IN ALBANY

ALBANY, N. Y., Nov. 17.—Funeral services were held today for J. Oliver Morris, president of Page-Morris, Inc., General Electric distributor here. He died Sunday following a major operation, having been ill only nine days.

Mr. Morris was 45 years of age. A graduate of Trinity College, he was a member of Psi Upsilon fraternity, Albany Country Club, Mohawk Country Club, and the Albany Lodge of Elks.

On the organization of Page-Morris, Inc., in January, 1929, he became vice president and general manager of the new concern.

Later, following the retirement of W. E. Page, Hartford,Conn., from business, Mr. Morris became president, and was personally in charge of the company's operations.

Associated with him were G. P. Wilcox, assistant general manager, and A. O. Linsey, secretary-treasurer.

KELVINATOR HAS NEW OUTLET IN WESTERN NEW ENGLAND

SPRINGFIELD, Mass. — Ratckliffe Bros. Co., Inc., of New Britain, Conn., has arranged to take over Kelvinator retail sales in a large territory of western New England and will open a store at 313 Bridge St., under the management of Fred Rackliffe about Dec. 1.

The Kelvinator contract with the Frederick Raff Corp. of Hartford and its subsidiary, the Kelvinator-Raff Corp. of this city, will expire Nov. 23.

GEORGIA POWER CO. SALES REACH $281,790

ATLANTA—Sales of General Electric refrigerators totalling $281,790 were chalked up in the fall refrigeration sales campaign of the Georgia Power Co.

The Atlanta division led with $161,000 in sales against a quota of $135,714, while the sales volume in districts outside Atlanta was $146,076 against a quota of $174,000.

NO 1932 TOPPERS CONVENTION; SEE TROPICS INSTEAD

Leading G. E. Salesmen Will Visit Bermuda, Havana, Mexico

CLEVELAND—More than 600 General Electric refrigerator salesmen who already have qualified for membership in the refrigeration department Toppers' Club, will tour the tropics for a week beginning Jan. 16 as their reward for sales efforts and accomplishments during 1931.

Where, heretofore, these salesmen have been brought from all parts of the United States to Cleveland each year at the department's expense to participate in the annual convention, it was decided recently that such a large convention would be done away with and instead the salesmen would be given this vacation with all expenses paid.

The nation has been divided into three zones, the southern, northern, and western, and the various "Toppers" from these zones will meet at central points from where their vacation trips will begin. The northern zone men will be brought to New York, the western zone salesmen will be brought to Los Angeles and the men in the southern zone will meet in New Orleans.

Bermuda, Havana, Catalina Island, and Old Mexico are some of the places that the men will visit.

The northern zone "Toppers" will leave New York, following a tour of the city, for Bermuda on the Furness-Bermuda Line steamship, "Monarch of Bermuda," which was recently completed at Walker-on-Tyne in England, and

(*Concluded on Page 4, Column 1*)

E. H. WILCOX NAMED TO MANAGE EXPORTS

DETROIT—H. A. Lewis, treasurer of the Kelvinator Corp., and in charge of the company's export operations, including foreign subsidiaries, has announced the appointment of E. H. Wilcox as manager of the export division, succeeding R. A. Lundquist, who resigned to devote himself to other work.

Mr. Wilcox joined the Kelvinator Corp. in 1925. Having had a background of experience in mechanical engineering and selling, and desiring to get into the electric refrigeration industry, he asked for and obtained a job in the shops.

He soon became a utility man, thoroughly familiarized himself with the whole assembly of the Kelvinator refrigeration machine, and was entrusted with important duties.

He was sent to England to take charge of engineering, service and commercial sales instruction and assisted in developing Kelvinator business in continental Europe.

Returning to Detroit after a year and a half abroad, he was made assistant manager and later associate manager of the export division. In Oct., 1930, he left Detroit on an extended trip, during which he visited Kelvinator distributors in the Fiji Islands, Philippines, Australia, China, Japan, and the Hawaiian Islands. He returned from this trip in Oct., 1931.

Mr. Wilcox is one of the pioneers in the development of Kelvinator commercial applications and assisted in the reorganization and development of commercial work at the plant of Kelvinator of Canada, Ltd., London, Ont., now a large Kelvinator subsidiary.

G. E. DISTRIBUTOR IN CANTON BROADCASTS GRID GAMES

CANTON, Ohio—Election returns and high school football games are being broadcast over radio station WHBC by Willis Co., General Electric distributor in this area.

Ben Allen, manager of the Canton store, arranged the broadcast of the results of the recent election and the General Electric program lasted more than six hours.

All high school football games are broadcast also by the company.

Commissioner Tells of House-to-House Selling in Australia

By E. C. Squire
Trade Commissioner, Sydney, Australia

IN RECENT years a great deal of business, especially on specialty lines, has been transacted by house-to-house canvassing methods of sale. In fact one might say that it has been the recognized method of getting distribution of quite a large number of household lines.

The companies engaged in this method of sale have in many instances been highly organized and have had ample backing by manufacturers.

At the present time conditions have naturally altered considerably.

Purchasing Power Cut

In the first place the general purchasing power has been greatly reduced; customs tariffs and prohibitions have greatly effected many lines which have to be imported, and owing to the fact that very large numbers are out of employment, the housewife is being troubled to a greatly increasing extent by peddlers, beggars, and others, so much so that it has become more and more difficult for the old time house-to-house salesman even to get a hearing.

However, despite all these difficulties, many companies are still making a success of such business, although through greatly increased sales resistance.

Refrigeration Canvassed

As mentioned above, this system of selling was particularly employed for the sale of specialty household devices. To some extent, however, it has been used for other personal things such as ladies' silk hosiery, and some few textile lines.

In the main, however, the business has been in the following general commodities: electric refrigerators, vacuum cleaners, electric washing machines, ironers, electric ranges, sewing machines, radio sets, brushes and hosiery, and, to a lesser degree, smaller electrical items such as toasters. Earlier, many player pianos were sold in this way.

Apparently the sale of the smaller electrical appliances was never a very great financial success owing to the fact that the costs of such salesmanship were greater than the profit would afford.

The usual methods of handling these sales are the same as in all other countries. The salesmen take with them articles for demonstration, the sale is made for delivery later, and most of the companies will not consider a sale as being made unless an initial deposit is received.

The electricity departments in Sydney and Melbourne, and up to a recent time in Brisbane, have all participated in this type of salesmanship of electrical appliances. They state that their reason for engaging in this kind of sale is for the encouragement of the use of electrical current.

Restrictions Missing

Recently the government in Brisbane has discontinued its electrical appliance sales department. The other two states are still interested in such sales.

There appear to be no regulations or legal restrictions which are made against the sale of articles by house-to-house canvass in any of the Australian states.

In Queensland, according to the State Arbitration Labor Awards, a salesman must receive a certain amount as a minimum for his salary per week.

Here some companies have avoided the incidence of this legislation by getting a salesman to sign an agreement to the effect that he is the company's agent in the territory allotted to him, and the contract made with such a salesman also states clearly that payment is by way of commission.

In the other states there is no basic wage laid down for salesmen, but it is usual with some companies to make practically the same agreement in order to meet such wage regulations in case they should arise.

Peddlers and mawkers are required to take out a license in all states, consequently arrangements with agents never make mention of their sales of their demonstrating machines, since such sales would be considered hawking.

The above two regulations are the only ones which we can find that affect house-to-house canvassing.

Little Prejudice

On the whole there is probably little prejudice against house-to-house canvassers in Australia. Largely in the past such canvassing has been rather well organized, and high grade specialties have been sold.

As a result, such companies usually try to employ a high type of salesman, and, in addition, it is usual to give them a course of training before they are put on as regular salesmen.

The local prejudice against this type of selling is decidedly different in certain classes of the community.

In the better class homes, where maids are employed, agents often find it decidedly difficult to enter the house.

In the greater number of homes occupied by the middle class, however, which after all are in the majority, little such prejudice is evident.

Educated As To Importance

The public has been rather well educated as to the importance of such household specialties as are sold and is, therefore, not antagonistic to the salesmen who try to interest prospects. Undoubtedly, the standing of such salesmen has been assisted by the fact that the electricity departments of the more important cities themselves have participated in such sales methods.

Some of the companies approached which are doing business in Melbourne state that people there appear more conservative and rather inclined to resent anything that borders on the high pressure type of selling, and here particularly there is more tendency to put on middle aged men rather than the real young salesmen.

As may be imagined from the type of commodities which are being sold here by house-to-house methods, quite a large percentage of the articles distributed are of American manufacture.

Certain American companies have established branches in Australia which operate largely on this basis.

At the present moment it would be difficult to say that this method of distribution affords any opportunity for increased sale of American products.

As we have mentioned, some companies which are organized to sell American and other commodities of this nature are managing to make a success of the business, but the increase in customs tariffs and prohibitions, together with the huge increase in peddlers, beggars and the like, makes it increasingly difficult.

In addition, most of the articles that could be sold house-to-house are semi-luxury ones, and with public buying power so greatly reduced, these are particularly the articles which the housewife is inclined to get along without, if possible.

Depression Condition

These remarks, of course, apply only to the present trade depression. Basicly, probably there are good opportunities for the sale of American products again when the present depression is ended.

We have secured some details with regard to this method of selling which may be of use to any company contemplating sales here.

Most of the companies doing an important business in house-to-house selling are organized along similar lines. They will have a head office in either Sydney or Melbourne, and then branch offices in the capital cities of the other states.

These branches are all run more or less independently, except for centralizing control from the head office. Each branch trains its own salesmen and maintains an independent staff for accounting, servicing, etc.

Finance Complete Sales

Some of the companies finance and distribute their sales complete. One large Swedish company, which distributes the Electrolux vacuum cleaner, maintains a head office in Sydney with branches in all the various states.

This company ships its merchandise directly to the various branches here, and sends out a debit note to the head office in Australia. The head office debits the state receiving the shipments.

These branches sell to customers for a small deposit, the rest to be collected by monthly installments. The branches gradually reduce these debits as they make their collections.

Some of the companies which maintain practically the same type of organization appoint distributors in each of the important cities. They then, nevertheless, maintain their own sales organization which puts an order through the department store or whatever company is acting as distributor.

According to this arrangement, however, the distributor must make the collections in order to gain its commission.

Arrangements with Utility

In some cases organizations selling electrical appliances, at least in Sydney, have made arrangements with the Electricity Department whereby they could use the Electricity Department's order blanks for taking the orders and then discount their paper with the Electricity Department, which pays full value for the machine sold, minus a commission.

The Electricity Department undertakes to make the collections. Such arrangements, of course, are special.

Another means of finance which has been employed a great deal has been to pass over collections to acceptance companies, of which there are quite a number in Australia. These companies will make the collections on the hire purchase arrangements in the same manner as motor cars are sold.

The Electrolux Co., as does most others, obtains salesmen by advertising in the press, but does not usually take on more than six at one time at any office.

The men are put through a course of training, and are usually given a very small salary during the period of training. Branch offices work on a budget system.

Below is a monthly budget of this company for its Adelaide branch. The basis of the budget, of course, must be that a certain minimum number of machines must be sold each month in order to carry this overhead. For this particular budget the minimum must be 40 machines per month.

Cash discount—Discount to customers on cash sales and finalisation of accounts	30.0.0
Collection expenses — Collector's salary, car allowance, and other incidental expenses	22.0.0
Catalogs and pamphlets — Pamphlets, bulletins, dust sheets, conations (if any)	13.0.0
Showroom expenses — Showroom attendant's salary, and other incidental expenses	7.0.0
Prizes—Competitions that may be opened	10.0.0
School expenses—Training, say, six men	6.6.0
Sales promotion—In the event of doing away with lady canvassers	23.0.0
Installations, fittings—Plugs given with machines when sold	4.10.0
Freight and cartage—Freight on machines to country agents and goods interstate	5.0.0
Service department—Service expenses	1.0.0
Repairs department—Profits on repairs department's activities, cr.	12.0.0
Unpacking expenses — Mechanic's time, etc.	2.0.0
Betterments—Reconditioning demonstrators	15.0.0
Guarantee expenses—Repairs, and mechanic's time on machines within guarantee	5.0.0
Salaries — Manager, accountant, four girls, one junior	140.0.0
Rent—Including rates and taxes	35.0.0
Stamps and telephone—Stamps, wire, lettergrams, reminders, and telephones	22.0.0
Stationery—This will be the maximum. We are never likely to exceed this figure	20.0.0
Electric light—On average	9.0.0
Insurance—On average	8.0.0
Audit fees—Usual monthly fees	15.0.0
Legal fees—Monthly reserve	6.0.0
Bank charges — Exchange and other small charges	1.10.0
Cleaning—This figure is the maximum	5.0.0
General Expenses	5.0.0
Repairs and renewals—Small repair jobs to furniture and maintenance charges	1.0.0
Total	399.6.0

A REFRIGERATOR MOTOR IS DIFFERENT

No other class of electric motor service presents the problems encountered in an electric refrigerator. The motor starts against full load—yet it must meet strict starting-current limitations. It starts and stops thousands of times a year—yet periodic adjustment of the starting mechanism, to compensate for wear, is not necessary. It runs hundreds of hours a month—yet it needs lubrication no oftener than once in twelve months. Moreover, it must be long-lived, dependable, and free from objectionable vibration and noise. Let it fail on a single score, and the entire unit it drives will be condemned. That is why Delco engineers took such great pains to develop a motor that would satisfy—that is why two and a half million Delco Motors in service today are proving that Delco engineers were right when they produced a *refrigerator motor that is different.*

DELCO PRODUCTS CORPORATION, DAYTON, OHIO

REFRIGERATION MANAGER, CRUSHED BY TRAIN, DIES

BURLINGAME, Calif. — Both legs crushed under a suburban train, Walter J. Aschenbrenner, sales manager for Thompson & Holmes, Ltd., distributor of Majestic refrigerators in Greater San Francisco, died Oct. 30 in the Mills Memorial Hospital, San Mateo.

The deceased had been with the Majestic distributing interests several years and had taken a prominent part in trade show activities.

Before joining the Thompson & Holmes organization he had been secretary of the Pacific Radio Trades association. He formerly made his home in Oakland, moving to Burlingame but a short time ago.

ELECTROLUX UNITS PLACED IN 276 APARTMENTS

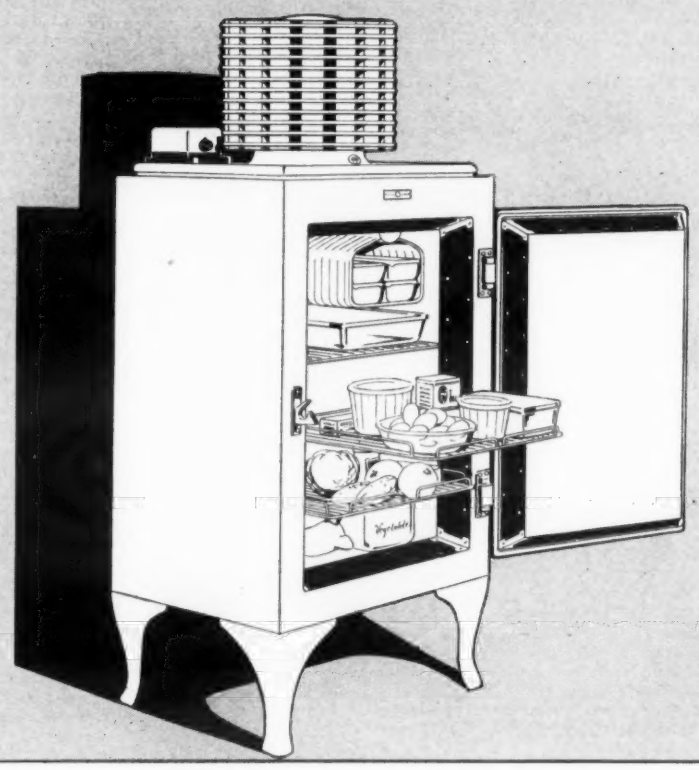
PHILADELPHIA — Philadelphia's largest apartment house, Norfolk and Suffolk Manor, located on Clearfield Ave., just west of North Broad St., has had installed in each of its 276 apartments an Electrolux "Senator" model refrigerator, distributed by the Philadelphia Gas Works Co.

Balsam-Wool
Sealed Slabs
NATIONALLY ACCEPTED
Completely satisfactory Refrigerator Insulation

WOOD CONVERSION COMPANY
Industrial Sales Offices:
CHICAGO, 360 N. MICHIGAN AVE.
New York, 3107 Chanin Bldg;
Detroit, 515 Stephenson Bldg;
San Francisco, 149 California St

WE BUY
New and Used ELECTRIC REFRIGERATORS
In Any Condition
Phone, Write or Wire All Details, Type of Motor, Size of Box, Etc.
KASKEY & QUINN, Inc.
525 Arch Street Philadelphia, Pa.

AFTER FIVE YEARS!



WILLIAM A. BODE — LOTS A SPECIALTY HOUSES BUILT — JOHN WENGER

« Sunset Hills » *Central Square* *« Parker Gardens »*

W. A. BODE & CO.

REAL ESTATE

LEHIGH 8300 - 8301

721 WASHINGTON ROAD
MT. LEBANON, PA.

October 7, 1931

Ochiltree Electric Co.,
505 Liberty Avenue,
Pittsburgh, Pa.

Gentlemen:

Two years ago your Mr. Webb inquired as to our experience with General Electric Refrigerators installed in our apartments, some of which were approximately three (3) years old at that time, and we stated that they were extremely satisfactory.

At this time, we are of a more firm mind, in that we believe we made a very satisfactory purchase.

To date we have not paid one cent for service and, might add, very little service has been required.

We have but to look around in our own locality and see equipment purchased at a later date which has been the source of great annoyance and the cause of loss of tenants through service breakdowns, and which has had to be replaced at an unlooked for expense.

The General Electric equipment in our apartments is quieter (after approximately five years of service) than when first installed.

If we were able to count on all of our equipment and material in the same proportion as the General Electric Refrigerators, our expense and annoyance would be practically nil.

We feel if you should come to us after another five years for a further recommendation on this equipment, our opinion will be even better than that expressed above.

Very truly yours,

W. A. BODE & COMPANY

BY W A Bode

...65

GENERAL ELECTRICS

- EXTREMELY SATISFACTORY
- WE HAVE NOT PAID ONE CENT FOR SERVICE
- AFTER APPROXIMATELY FIVE YEARS OF SERVICE

General Electric Company, Electric Refrigeration Department, Section DF 112, Hanna Building, Cleveland, Ohio.

GENERAL ELECTRIC

ALL-STEEL REFRIGERATOR

Give to your local welfare and relief organizations, to your Community Chest, or to your emergency Unemployment Committee for unemployment relief.

G.E. Topper Candidates Strive To Gain Vacations in Bermuda, Cuba, Mexico

(*Concluded from Page 1, Column 5*)

which will leave England for New York Nov. 28 on her maiden voyage.

Special arrangements have been made with owners of the leading hotels on this English-owned island to quarter the salesmen and a complete program of entertainment has been arranged. There will be banquets, golf, tennis and a hundred other diversions to be enjoyed by the "Toppers."

The vacation trip of the western zone men will take them to Hollywood, then, in specially chartered coaches to Tia Juana, Agua Caliente, thence to Catalina Island.

In Hollywood, the "Toppers" will see motion pictures made, will meet some of the leading motion picture stars of the United States, and will make an inspection tour of the leading studios.

At Tia Juana the vacationists will watch the horse races at the famous Mexico track. Here, as well as in Agua Caliente, sight-seeing tours will be made. Famous historical spots will be visited.

They will sail from Los Angeles on the third day for Catalina Island where arrangements have been made to give the men virtually exclusive use of golf cources, tennis courts, and several other places of amusement.

Plan Day in New Orleans

The Southern zone "Toppers" will spend the day in New Orleans before leaving for Havana and will be taken by guides to the Old Quarter of this famous and historic city. One of the chief points of interest in the Old Quarter will be Pirates' Alley, where there are many old buildings still standing which were used more than a century ago by pirates from Southern France and Spain.

They will leave the following day on a United Fruit Co. steamer for Havana. During the two-day cruise through the Caribbean, the "Toppers" will be afforded enjoyments by deck games and other amusements planned by officials of the United Fruit Co.

In Havana, the "Toppers" will be dined and feted as would any visiting nabob. Here, too, a great program has been arranged for the entertainment of the salesmen. Following two days at Havana, the "Toppers" will return to New Orleans.

The three tours will end simultaneously at Los Angeles, New Orleans and New York, Jan. 23.

All Play, No Work

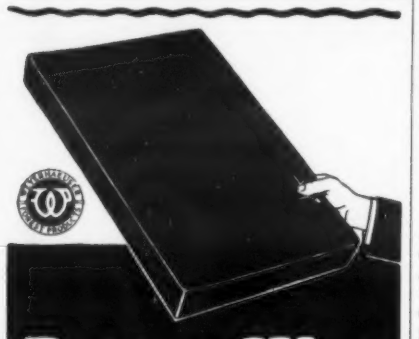
No work at all will be done by these salesmen and little or no work past or future will be discussed.

The "Toppers" from the Northern zone will be the over-quota salesmen from the following distributors: Bard-Barger, Inc., H. G. Bogart Co., Breckenridge, Inc., Judson C. Burns, Rex Cole, Inc., The Cushman Refrigerator Co., A. S. Dunning, Inc., Eastman Service Refrigeration Co., Electric Home Appliance Co., Clark-Adams, Inc., Caswell-Stull, Inc., R. Cooper, Jr., Inc., Electric Refrigerator Co., Erco, Inc., Glueck & Co., Gould-Farmer Co., W. N. Hogan, Hoosier Electric Refrigerator Corp., Gentsch & Thompson, Inc., The Hines Co., The Milnor Refrigerator Co., Philip H. Harrison & Co., James & Co., Inc., Modern Home Utilities, Inc., Ochiltree Electric Co., Newton-Parsons Co., Page-Morris, Inc., E. H. Schaefer Corp., Warde B. Stringham Co., O. F. Stuefer, Inc., Storz Electric Refrigerator Co., The Willis Co., N. K. Ovalle, Inc., National Electrical Supply Co.

Southern Distributors

The distributors in the Southern zone are: Ahrens Refrigerator Co., E. O. Cone Co., Edmundson Refrigerating Corp., H. & G. Refrigerator Co., A. G. Riddick, Inc., S. C. Griswold, O'Bannon Brothers, George Patterson, Inc., Alabama Refrigeration Co., Wright Brothers Refrigerator Co., Pendergraph-Brown, Inc., W. D. Alexander Co., Southern Refrigerator Co.

The following distributors comprise the Western zone: Frank Edwards Co., The Laidley Co., B. K. Sweeney, Inc., F. B. Connelly Co., Valley Electrical Supply Co., George T. Bauder, George Belsey, The L. H. Bennett Co., Ltd., and Gordon Prentice, Inc.



Balsam-Wool
Sealed Slabs
ODORLESS
SANITARY
Completely satisfactory Refrigerator Insulation

WOOD CONVERSION COMPANY
Industrial Sales Offices:
CHICAGO, 360 N. MICHIGAN AVE.
New York, 3107 Chanin Bldg;
Detroit, 515 Stephenson Bldg;
San Francisco, 149 California St.

PHIL HARRISON GIVES GOLD REFRIGERATOR TO MOORE

NEWARK, N. J.—Governor-elect A. Harry Moore of New Jersey recently was presented with the gold replica of the one millionth General Electric refrigerator by Philip H. Harrison, president of Philip H. Harrison and Co., distributor of General Electric refrigerators.

POLITICAL SCIENCE BODY HEARS SWOPE

NEW YORK—Before the Academy of Political Science at the Hotel Astor Friday, Nov. 13, Gerard Swope, president of General Electric Co., made answer to some of the criticisms of his plan for the mitigation of industrial depressions, which he originally presented in an address before the National Electrical Manufacturers Association on Sept. 16.

Mr. Swope emphasized the "voluntary action" element in his plan, as opposed to compulsion, and re-affirmed his belief that stabilization of industry, particularly of employment, is possible by the procedure he has suggested, with full protection of the public interest.

Whether his plan is meritorious or not, he pointed out, the experience gained in endeavoring to put it into practice would of itself tend to correct its weaknesses.

No 'Counsel of Despair'

To believe, as some do, that industry simply cannot be stabilized, Mr. Swope asserted, is to adopt what Senator La-Follette has termed the "counsel of despair," which would be a negation of all effort toward progress.

"No doubt," said Mr. Swope, "the plan for stabilization of industry along lines that I have suggested would have to be modified as we have more experience, but such experience can be had only by trying one scheme or another to solve the problem, which, unsolved, leaves us with all the present chaotic, unhappy and finally unendurable consequences."

Discussing the dissemination by trade associations of knowledge regarding trade practices and ethics, and the standardization of products, Mr. Swope quoted an opinion of the Supreme Court, handed down in 1925, which held that "the natural effect of the acquisition of wider and more scientific knowledge of business," could hardly be deemed a restraint of commerce, or at least not an unreasonable restraint, "or in any respect unlawful."

Old Fears Removed

Mr. Swope added that he believed American industry has long since passed the point where trade associations would curtail production, causing increases in prices to the public, a fear expressed by some people.

"What the industry would endeavor to do," he said, "would be to prevent over production, and would regard as an unfair competitor any member of such trade association who, knowing the consuming power of the public and the stocks on hand in the possession of all members of the association, nevertheless built up a large inventory, which later must be sold at reduced prices, quite regardless of cost.

"Such practices are unfair to the competitors themselves, and highly unfair to the labor employed; and such prices below cost for a brief period are of no lasting benefit to the consuming public." Modification of the Sherman anti-trust law along the line recommended by the American Bar Association to remove the criminal aspects of the law and to allow companies to make agreements which would be filed with the Federal Trade Commission and the Department of Justice was one method suggested by Mr. Swope.

'Utilities Alone Able To Handle Task Of Power Development,' Sloan States

(*Concluded from Page 1, Column 1*)

Only big agencies can handle a job of such size.

"The operating utility is on the way to become a state-wide organization. These large utilities increasingly will be linked together under regional holding companies.

"Thus natural geographic areas can be most efficiently and economically supplied with electricity, and thus, I believe, can the supply system be most efficiently set up and administered.

Simplify Structure

"To reach such stage of development will involve changes in corporate structures and utilities' relations with government agencies. The tendency today is to merge contiguous operating companies and to simplify corporate structures by eliminating intermediate holding companies.

"This should and, I am sure, will be continued as a matter both of good business practice and good public policy. The state-wide operating companies of the future will be under state regulation so the user of electricity will have all the protection he now enjoys, and more, because as the utility industry progresses the laws governing its operation should and must progress in step with business development.

"These operating companies will interchange power across state boundaries. The contracts by which they buy and sell this power, and the prices, will come to be supervised and regulated either by regional conferences of the state regulative authorities or by federal authority.

Present Control O. K.

"These are matters now at issue before the public. There is a wide range of opinion regarding them, within the industry and outside it. So long as public control remains, supervision and regulation comparable to the jurisdiction exercised by state agencies today, the utilities will be entirely able to do their job and get along.

"If public control of the utilities, either operating or holding companies, should go beyond that point, interfering with proper exercise of managerial judgment and imposing official mandates in place of managers' decisions, as is now too frequently the case with railroad regulation, that will be a sad day for the utilities and the great public dependent on their service.

Power Trust Question

"I have ventured here predictions which, I am sure, would cause many in public life to declare that I was picturing the ultimate triumph of the power trust and its enslavement of the people. Their view of our electrical future would be the municipal, state, federal—eventually amalgamating into a country-wide and necessarily federal-operated power supply. That is a matter of opinion, and it is the clash of opinions which brings information and enlightenment.

"In my judgment there are two reasons why our electrical future will not go to municipal ownership. The first is that in spite of many breaches of the rule, our national policy and practice are opposed to government conduct of business which can be satisfactorily carried on by private enterprise.

"Assume that three-quarters—surely a liberal estimate—of all now said in criticism of utility operation and public regulation is accurate. Against that put the uncontested facts of the wide development of electric service by utilities, its high technical standards, the steadily increased use of current and decreased prices. It becomes hard to see where a case has been made requiring a shift to government ownership and operation.

No Job for Government

"The second reason is that this country, wealthy and powerful as it is, could not take over and operate the electric utilities on any basis of sound business. Government, which is essentially political, must and will handle matters differently from business.

"Business seeks only to continue successful and to grow, which on a long-term basis means serving customers to their satisfaction. It can't buy success with patronage or cover up failures in the tax levy. It must root, hog or die. Government is under no such necessity, and with its set-up of checks and balances and diffused authority and responsibility couldn't meet business requirements if it were under this necessity.

Fears Bureaucratic Factor

"The government could take over electric utilities, but what would happen to electric service and the people dependent on it in homes and workplaces is not pleasant to think of, in view of the results of government control of the railroads.

"The financial side of the situation would not be its worst aspect, bad as that might be. Bureaucratic control of a necessity of modern life, unchecked power over a twelve billion dollar enterprise, with a quarter of a million employes—there you would have a power trust which would be something really to worry about."

REPORT 14,000 ATTENDANCE AT PEORIA SHOW

PEORIA, Ill.—A total attendance of 14,364, of which 13,164 were paid admissions, was recorded for the Radio and Home Appliance Show which was sponsored by the Peoria Journal-Transcript, Oct. 20 to 24, according to C. H. Kallstedt, state director of the N. E. L. A. refrigeration bureau.

Other facts regarding the show are:

There were nine different makes and 13 different models of refrigerators shown.

Four-hundred and fifty prospect names were obtained and 23 actual sales made.

There were 682 column inches of news material printed regarding the show and 2,940 column inches of display and advertising used by the exhibitors.

Back of Success there Must be Merit!

SERVEL Electric Refrigeration
WILLIAMS ICE-O-MATIC REFRIGERATION BLOOMINGTON, ILLINOIS
UNIVERSAL DETROIT, MICH
Zerozone Lifetime Refrigeration
ELECTRIC RICE REFRIGERATION
Absopure DETROIT, MICH.
DICELER DICELER MACHINE CO.
Apex CLEVELAND, O.

IF YOU are interested in making more sales . . . in having trouble-free installations . . . if you want boosters for your product in the shape of satisfied users . . . the use of Larkin 100% vertical-surface Aluminum Plate Coils is a step in that direction.

Their adoption as Standard Factory Equipment by Leading Manufacturers is the result of merit proven by test, and today over 25,000 Larkin Coils are in widespread use.

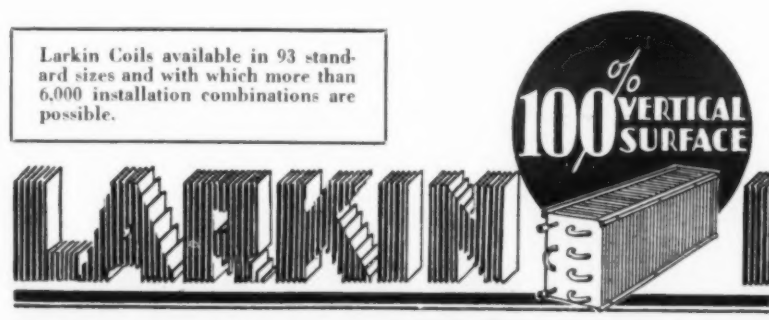
It is important to know that with Larkin Coils a complete coil unit is readily available for a complete job. *The ganging of coil units is unnecessary.* Such practice requires the use of additional couplings, resulting in increased leakage and service hazards and, of course, greater installation cost.

Tremendous growth and acceptance, requiring factory enlargements, give capacity to assure 24-hour shipping service.

NEW AND IMPORTANT LITERATURE FOR YOU—

We do not recommend the use of Capacity expressed in B. T. U.'s or I. M. E.'s in estimating jobs, and, for the interested trade, have a very valuable explanation of this position in the form of new literature, available on request.

Larkin Coils available in 93 standard sizes and with which more than 6,000 installation combinations are possible.

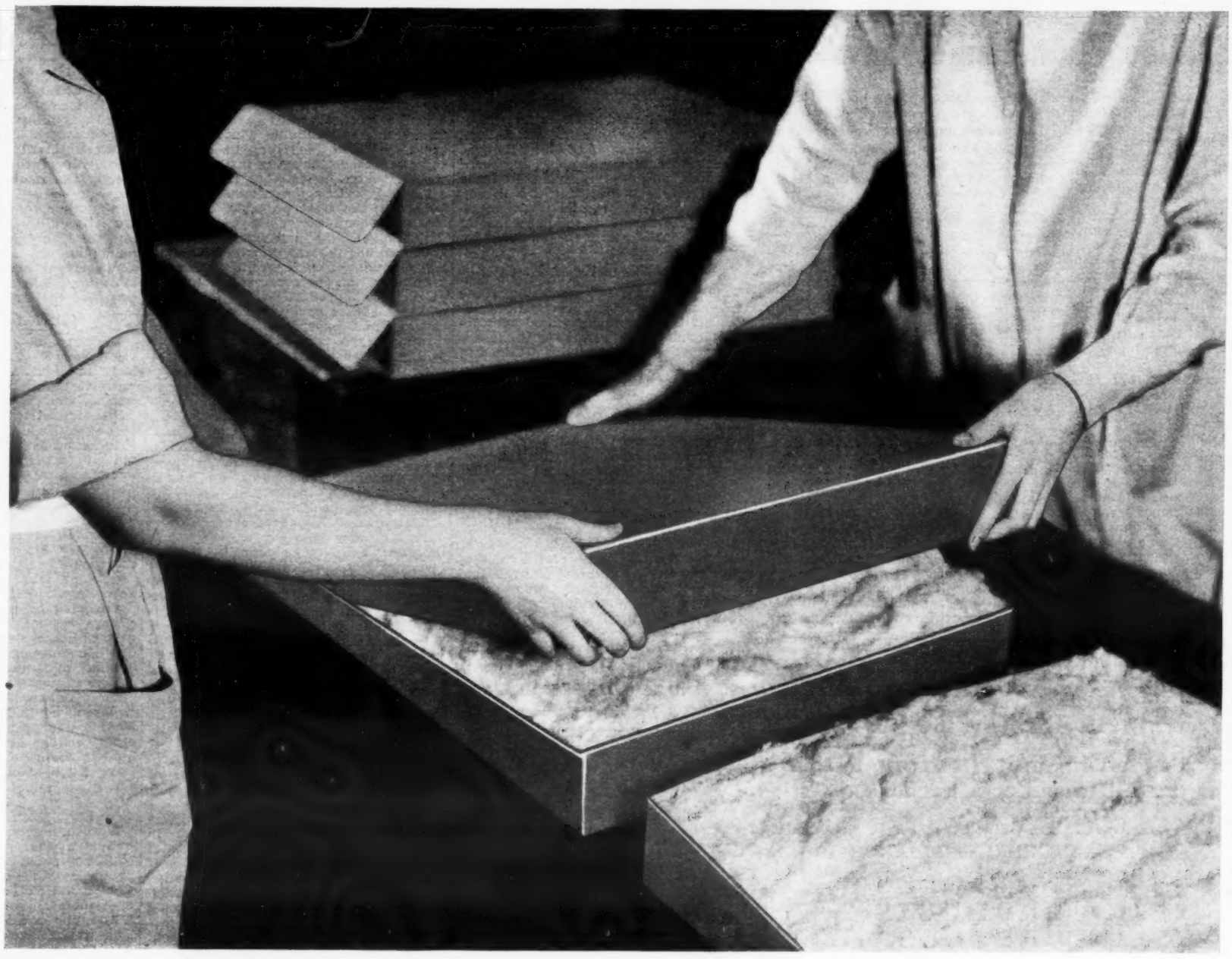


U.S. PATENT No. 1,776,235.

LARKIN COILS

LARKIN-WARREN REFRIGERATING CORPORATION
Originators and Manufacturers :: :: ATLANTA, GEORGIA

Copeland DEPENDABLE Refrigeration DETROIT, MICH
TRUPAR DAYTON, OHIO
B-K, Junior New Brunswick, N.J.
KULAIR PHILADELPHIA, PA.
STARR FREEZE Electric Refrigeration
JEWEL Refrigeration
ME Electric-Automatic REFRIGERATOR PHILADELPHIA
Modern



Nimble fingers cover the cardboard cartons filled with Dry-Zero fibre by the amazing "graining" machine.

Capturing Insulation Efficiency

Minute glass-clear tubes of pure cellulose, a quarter of a thousandth of an inch in diameter, but one to two inches long, closed at both ends, and having shiny surfaces that reflect heat like spinning marbles bouncing from a highly polished slab—these are the fibres from the pods of the Ceiba tree. When "grained," they form the unique insulant commercially known as Dry-Zero.

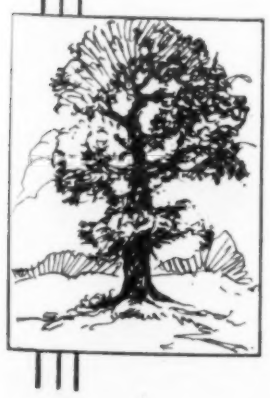
Marvelously intricate machines "grain" the Ceiba fibres so that they lie parallel, like wavy hair, resulting in greatly increased insulation efficiency.

For use in refrigerators the Dry-Zero batt is enclosed in a tailor-made carton which, when sealed in asphalt paper, exactly fits a given space, but with sufficient resilience to offset construction irregularities.

These cartons are made to **exact** dimensions, checked individually with **exacting** templates, and each contains an **exact** amount of Dry-Zero fibre. Their actual applied efficiency can be calculated in advance. They are easy to handle, durable, clean and can be instantly applied.

Dry-Zero Pliable Slab is now used in more refrigerators than any other single insulating material. It will not crack, settle, disintegrate, absorb or give off odors. It is highly resistant to moisture. Tests show it to be 20 to 30 per cent more efficient than commercial cork and fibre insulating boards. In fact, the same tests made by such impartial authorities as the U. S. Bureau of Standards and various state institutions show Dry-Zero to be the most efficient commercial insulant known.

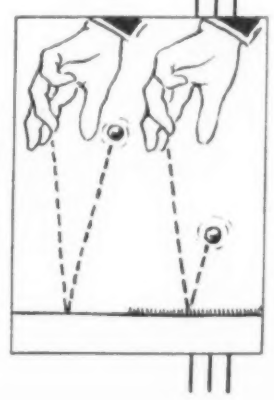
Harvey B. Lindsay, insulation genius and discoverer of the Lindsay Theory of Specific Surface Resistances, president of Dry-Zero Corporation.



The Ceiba Pentandra, a strange tropical tree sometimes attaining 70 feet in height, from the huge seed pods of which fibre is taken by natives and shipped to the factory in the United States to make Dry-Zero.

DRY-ZERO CORPORATION
Merchandise Mart - Chicago, Illinois
Canadian Office - 465 Parliament Street, Toronto

DRY·ZERO
THE MOST EFFICIENT COMMERCIAL INSULANT KNOWN



Marbles bounce more forcefully from a smooth, polished surface than from one that is rough, and illustrate how heat is reflected from the shiny, smooth surfaces of the Dry-Zero fibre.

Department of Commerce Developing Stabilization Plan, Feiker Says

NEW YORK—An "American economic plan" for business stabilization through group action is being developed by the Department of Commerce, Frederick M. Feiker, director of the department's Bureau of Foreign and Domestic Commerce, said recently in an address here.

With the warning that "the time has come for definite action by American business," to prepare effective economic plans, Director Feiker explained that the program in final form will be made available to trade and industrial organizations, but that it will conform to the "fundamental American principle" of individual initiative, achievement and reward and is not a program which can be imposed by "fiat or decree."

The New York Trade Association Executives heard Mr. Feiker describe courses followed recently in the effort to secure data on which to base economic planning. These include market research and analysis, product research, investment and equipment-replacement program, budgeting, forecasting, statistical control, simplification and development of standard specifications, development of sound interindustry relations, wages and employment policy, and adoption of standard trade practices.

Standardization of employment can contribute materially to the ultimate aims of economic planning, he declared, and new products and new uses for existing products should be developed for exploitation in future depressions.

Mr. Feiker's statement in part follows:

The time has come for definite action by American business through its organized groups in the direction of effective economic planning. It is time to stop talking and to do something. We have all been indulging in a plethora of discussion as to what should be done. The need now is for a modicum of action in order that American business may never again confront the disastrous toboggan of the "business cycle" without actual effective means of applying the brakes.

Problems Studied

The Bureau of Foreign and Domestic Commerce has been at work on this problem, and it is prepared to offer its services to any industry seeking to take advantage of the available means for setting up the machinery to plot its future development along stable and safe lines. How these services and aid shall be extended and how far they are needed is a matter for the individual to decide.

Government can help, government can coordinate and plan, but the burden rests upon every individual business group and business organization to put its own house in order. The forward looking individual or group will act now to insure future stability, and will take advantage of the means which business itself has set up in the Department of Commerce to determine its needs and its measures.

Representative trade associations and business representatives have prompted the formulation of a definite concrete program—an American economic plan, if you like—for business stabilization through group action. In its final form this program, now in a tentative stage, will be the product of the best thought that the Bureau may be able to summon from among leaders in American trade and industry. In that form it will soon be made available to the trade or industrial organization which seeks to move forward toward the stabilization of its future.

Conform to Principles

This program must conform to the fundamental American principle of individual initiative and individual achievement for individual reward. It can not be imposed by fiat or decree. It must in the end rest upon the intelligence and ingenuity of the American business man. Economic planning by ukase is not for us.

Economic planning in its true sense is not new to American business. Many of our trades are doing it, in part, even though they may not so label it. What we now propose is the correlation, coordination and extension of the work now being done in a scattered way, by many trades to fit it into a complete, nation-wide pattern.

Let me mention some of the lines of activity which have been presented to us in the Department of Commerce to be carried on by individual concerns or by industries through their trade associations which have a direct bearing upon the problem of maintaining a continuous adjustment of production facilities to market demands—the true aim of real economic planning.

These are:

Market research and analysis: Each firm and industry should engage in careful market analysis for each of its principal products with the aim of (1) discovering and defining logical market areas to which goods can be economically delivered. In many instances this would involve contracting rather than expanding existing markets. (2) Determining the most probable long-term market growth factor for each principal product; (3) determining normal seasonal fluctuations in the sale and consumption of each product; (4) determining the responsiveness in the sale of each product to the influences of the business cycle, based upon past records and experience, and (5) determining the maximum consumption, taking into consideration the price at which competitive articles are commercial substitutes.

Product Research

Product research: The aim of this program should be three-fold: (a) The development of new products, adapted to the machinery equipment and established technic of the industry or to the distributive machinery and market areas which it supplies; (b) the discovery of new uses for existing products and by-products, and (c) the determination of unprofitable products—products ill adapted to the industry, or those which are meeting with a declining demand and, therefore, might profitably be eliminated.

New products and new uses for existing products should be developed not for the purpose of immediate expansion during a boom period, but for the purpose of exploitation at seasonally inactive periods, or at times when the industry is suffering from cyclical depression.

Investment and equipment replacement program: This program is of vital importance because of the present tendency to concentrate investment and the building of plants and equipment in boom times rather than in spreading it out evenly over times of slack business. An intelligent policy of equipment replacing and extension depends, of course, upon statistical studies of long-term growth, which should indicate to each industry what its productive capacity should be at different times in the future.

Budgeting, forecasting and Statistical Control: The aim of this program should be to inculcate in the minds of producers the desirability of making careful forecasts of sales and budgeting their operations at least one year ahead so far as direct operations are concerned, and from three to 10 years ahead so far as investment policy is concerned. Necessarily, such a policy should develop a better coordination between internal accounting practices and the statistics of the entire industry (which can be characterized as the "external accounting").

Simplification and development of standard specifications: This program is already well under way under the leadership of the Department of Commerce. Its relations to economic planning, as defined above is not as direct as the other lines of attack enumerated, but it is an essential element in reducing costs, in clarifying consumer demand, and in making possible intelligent market analysis and product research. Trade associations, of course, can take the lead in this work.

Interindustry Relations

Development of sound interindustry relations: F. This program is particularly important in the case of firms and industries which are themselves producing machinery and equipment for other industries, the manufacturing process of which is completed in another industry. Thus the machine tool industry is dependent upon machinery manufacturing industries, whose activities in turn are related to the equipment replacement policies of practically all industries using machinery.

Wages and economic policy: Economic planning to be comprehensive must include a properly worked out and consistent labor policy. The balance between production and consumption as determined by purchasing power must always be kept in view and it is just as essential to avoid serious dislocation on the consumption side as that on production or transportation. Standardization of working time, policies with respect to employment of women and children, methods of payment, unemployment insurance, pension plans, and other welfare arrangements are desirable in order to equalize and stabilize competition among the various units of the same industry.

Standard Trade Practices

More remotely, efforts on the part of individual concerns, or the industry, to stabilize employment, though stabilizing income, can contribute materially, though indirectly, to the ultimate aims of economic planning.

Adoption of standard trade practices: This would have to do with trade terms and discounts, credit policy, etc. The benefits of standardizing trade practices are similar to those obtained by standardization and simplification of sizes and types of products and standardizing labor relations.

This is a broad field of activities. Properly cultivated its harvest in future business stabilization will be tremendous. It rests with the leaders in the trade association movements to take an inventory of their activities, and determine the needs of their industries. In this the Bureau of Foreign and Domestic Commerce is now preparing to offer definite aid.

When those needs are determined, the Bureau is prepared to aid in the determination of how each can best be met, whether by the work of the association itself, by cooperation with established government agencies, or by established private facilities.

Government is ready to cooperate to the broadest extent possible with the machinery at its command. It is now up to American business to act. It faces a large task.

This task calls for courage. It calls for imagination. It calls for vision that can place the humdrum details of day by day work and effort in its true relation to the national economic goal and press forward steadily toward that objective.

The task is plain before us. Let us get to work.

KULAIR Electrical Refrigerating Products

Simplicity, quality, efficiency and capacity unequaled. A size for every use.

Compressors from 95 Lbs. to 4300 Lbs. I. M. C.

NO. 1300 COMPRESSOR
Single Cylinder 1¾ x 1½
300 to 425 R. P. M.

Condensing Units from Small Domestic to Large Commercial Capacities.

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Providing Proper Profit To All Distributors.

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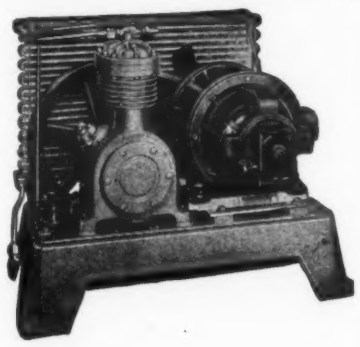


KULAIR CORPORATION PHILADELPHIA, PA.

THIS DRAMATIC

Flexo Tray ADVERTISING

BY "BELIEVE IT OR NOT" RIPLEY

... is building sales and profits for me

BELIEVE IT OR NOT ---------- By Ripley
A PILE OF ICE-CUBES AS HIGH AS THE EMPIRE STATE BLDG. CAN NOW BE TAKEN OUT OF FREEZING TRAYS BY REFRIGERATOR OWNERS IN 15 SECONDS
EXPLANATION OF RIPLEY'S CARTOON BELOW
YOU TOO WILL WANT THIS MODERN ICE TRAY
Look for this modern convenience
Flexo Tray
ICE CUBES INSTANTLY—TRAY TO GLASS
THE INLAND MANUFACTURING COMPANY
Dept. E-11, Dayton, Ohio

Opportunity is knocking at the door of every automatic refrigerator dealer. Opportunity to build sales, increase profits!

Flexible rubber freezing tray advertising is producing amazing results. Dramatic illustrations from the famous pen of "Believe It or Not"—Ripley have caught the public fancy... have created unprecedented demand for this modern ice tray.

Dealers everywhere report surprisingly increased sales in flexible rubber ice trays. Thousands of people have called at showrooms and asked for these trays. Thousands have written to us for names of local dealers. In fact, flexible rubber ice trays have today become the most popular and *fastest selling* item in dealers' stocks! Not only that—dealers have found that this tray opens doors to actual refrigerator sales, makes call backs easier and more profitable.

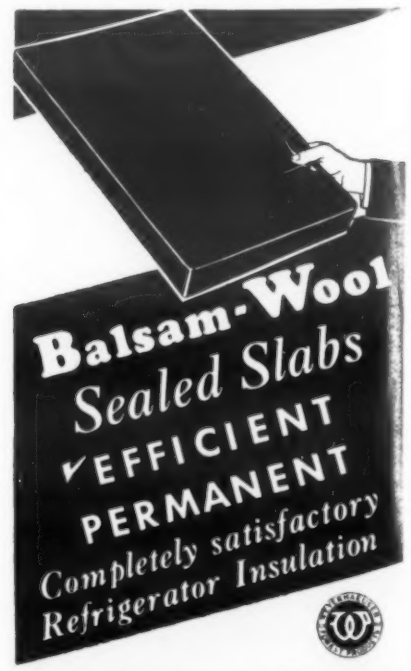
Don't miss this opportunity to boost profits. There's *big* money in selling this popular ice tray, made in sizes to fit all makes of refrigerators. Ask for complete details. Address the manufacturer of the refrigerator you sell, or write direct to us.

THE INLAND MANUFACTURING COMPANY, Dayton, Ohio

Flexo Tray
Registered U. S. Patent Office — Patented and Pats. Pending
ICE CUBES INSTANTLY—TRAY TO GLASS

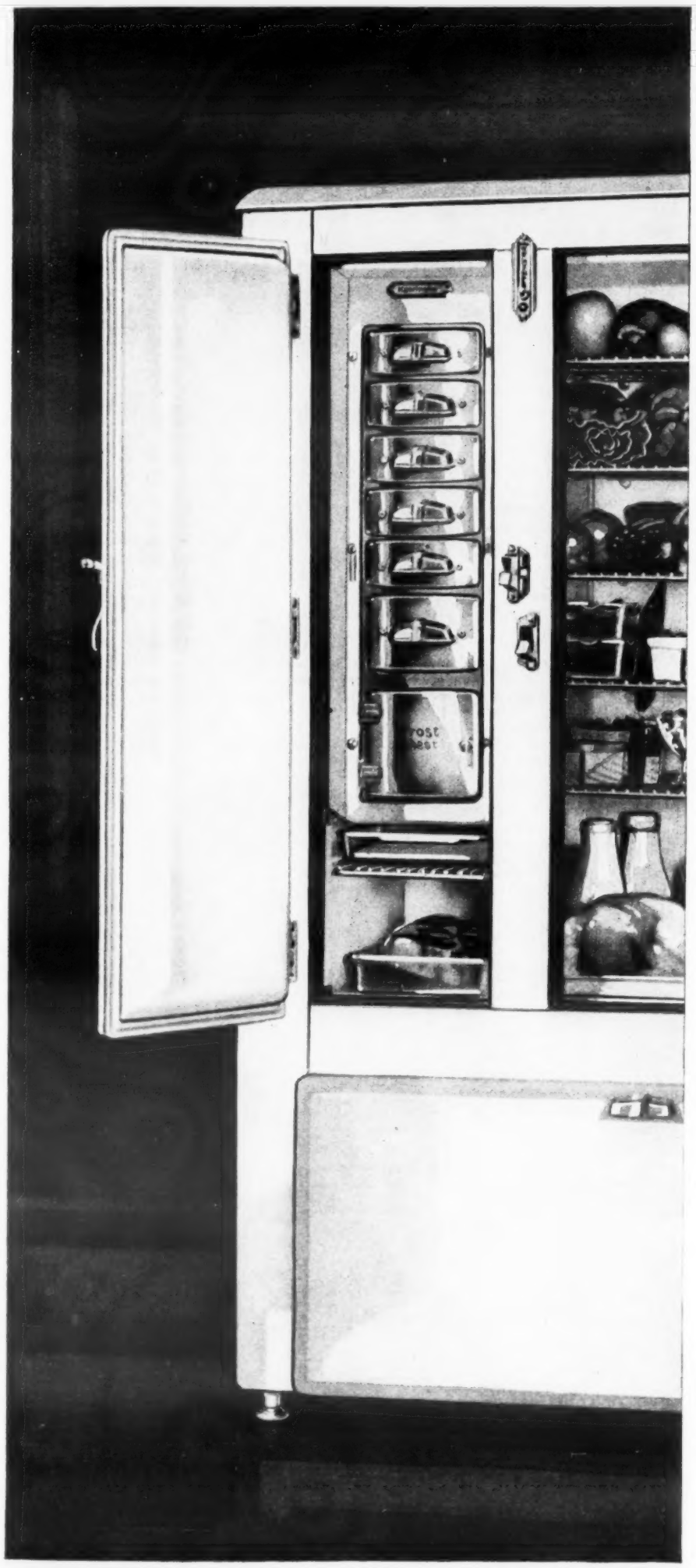
● Here is another compelling ad in this unique series appearing in Collier's, The New Yorker, American Home, Polo, and other leading national magazines. Decide now to cash in on this profit-building advertising.

1-52



WOOD CONVERSION COMPANY
Industrial Sales Offices:
CHICAGO, 360 N. MICHIGAN AVE.
New York, 3107 Chanin Bldg;
Detroit, 515 Stephenson Bldg;
San Francisco, 149 California St.

Dealers ARE Appreciative!



Now, more than ever, dealers are showing their appreciation of the fact that Kelvinator—with a Model for every price class—with the greatest value in each of the price classes—and with the most salable line of Domestic and Commercial electric refrigeration in the industry—is unmistakably, the most desirable refrigeration account to-day.

No other franchise in the industry offers such complete coverage—such outstanding merchandise—such liberal policies—and such a splendid opportunity for volume and profit, this year, next year, and ten years from now.

We will gladly send *you* details and show you why there is such a country-wide demand for the Kelvinator Sales Agreement.

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14245 Plymouth Road Detroit, Michigan
Kelvinator of Canada, Limited, London, Ontario
Kelvinator Limited, London, England

Kelvinator

(407)

MERCHANDISING SECTION ELECTRIC REFRIGERATION NEWS

The Business Newspaper of the Refrigeration Industry

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Also publishers of REFRIGERATED FOOD NEWS (monthly) and the REFRIGERATION DIRECTORY (annual)
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Copyright 1931 by Business News Publishing Co.
VOL. 6, NO. 11, SERIAL NO. 139, Part 1, Nov. 18, 1931

Editorial Aims of the News

To encourage the development of the art.

To promote ethical practices in the business.

To foster friendly relations throughout the industry.

To provide a clearing house for new methods and ideas.

To broadcast the technical, commercial and personal news of the field.

Enlisting the Wives

TO W. D. McELHINNY, vice president, in charge of sales of Copeland Products, Inc., goes the credit for an idea which produced genuine results in the last national sales contest held for Copeland salesmen. Mr. McElhinny enlisted the wives.

Before announcing the contest he procured the home address of every Copeland salesman, and ascertained whether or not each was married. Wives of the married salesmen were told all about the contest, were informed that here was an opportunity for the husbands to bring home some extra cash, and were asked to *encourage* their husbands to work evenings as well as during the day (instead of quibbling because their mates weren't home nights).

Moreover, prizes were offered which women would like. Thus a salesman's wife could see the catalog of prizes and be impelled to urge her husband to "win one of those for me."

Idea Works

The idea worked. Wives felt that they were "in on the deal;" that they were partners in a business enterprise. They saw an opportunity to get new things for the home, to add to the family bank account. Their husbands were intrigued by the sporting element of the contest, by the opportunity it offered to play a game, to indulge in a legitimate fight. Wives saw the *practical* advantages of the proposition.

As a result the girls whom the salesmen left behind them each morning and evening not only cheered them on, but in many cases actually sought out women they knew and paved the way for a salesman's call. At their clubs and parties these wives noted possible prospects, and steered their salesmen-husbands in the direction of these prospects they had discovered. And by the end of the contest a great many Copelands had been sold.

Wife Turns Dealer

In Chillicothe, Missouri, there is another example of a wife who has been enrolled in the army of electric refrigeration salespeople. This woman has not been satisfied with helping her husband sell goods; she has taken over the job of selling electric refrigerators herself.

Mrs. E. W. Shannon of that city is the wife of a manager of a lumber company. She takes care of two children and a home. Yet she found enough time this year to sell so large a number of Servel Hermetic refrigerators that she won a free trip to the factory at the end of the summer Servel contest.

Her trick—questionable though it may be from the standpoint of a charter member of the 400—is to invite women to her house to play bridge. She serves them frozen desserts, and takes advantage of the opportunity to give a group sales talk during lulls and during the serving of the dessert. She knows what women want in a refrigerator, knows at first hand what she can do with electric refrigeration, and converts her knowledge into sales.

Finding Prospects

Sales managers can grasp an idea from Mr. McElhinny's scheme of getting wives to push and encourage their husbands into greater sales efforts. Salesmen should be able to get a new idea from the example set by Mrs. Shannon. Even though they don't actually put their wives to work, they can find out from them the things about electric refrigeration which have the most appeal for women, and by urging their wives to ferret out the names of women who might buy electric refrigerators, they can get on the trail of new prospects.

Perhaps one of the chief reasons why the electric refrigeration industry has made so commendable a record and gained so much respect during a period of depression is that it has had the benefit of a great deal of "overtime" working and thinking.

Competition has been so challenging, opponents and fellow-workers have been so alert, and home office executives have been setting such a fast pace that any man who wants to stay in the industry has had to double and redouble his efforts.

Cherchez La Femme

Various schemes have been put into effect to get salesmen on the job bright and early in the morning. Other methods have been proposed and tried to keep salesmen busy in the evening. Possibly another resource can be tapped—the salesmen's wives can be pressed into service.

By utilizing suitable schemes of rewards and acknowledgment of services, sales managers may be able to inspire thousands of wives into enthusiastic support of fall sales efforts. And since there is a woman behind much of the extra effort expended by the least deadly of the species, sales managers who do grasp this opportunity will likely find a noticeable upward tendency in their annual sales curves.

GLEANINGS
FROM RECENT PERIODICALS

Bait for Tenants

THE prospective apartment house tenant of today has fixed ideas of what he or she believes to be advantages to look for in selecting an apartment. A careful survey of the apartment house field definitely establishes the fact that the two most important items of consideration are bathroom fixtures and arrangements, and last, certainly not least, the set-up of the kitchen.

A careful check-up of the growth of the refrigeration industry certainly places the electric refrigerator in a place of prominence in the kitchen. When we consider that 20 per cent of the potential buyers in the United States today have purchased electrical refrigerators, we can visualize the rapidity with which the acceptance of this product has made itself felt. If you consider this 20 per cent as an average family and that each one surrounds himself with a normal circle of friends, it is easily understood why 95 per cent of the housewives would like to either own or have an electric refrigerator.

Constant use of the pride of ownership appeal on the part of the user plus definitely established economy and convenience have assisted in bringing the greater part of the 95 per cent to the point where they actually visualize the savings of an electric refrigerator. Add to this the constant use of refrigerator exhibits, cold cooking demonstrations, model kitchens, newspaper publicity and radio broadcasts, it is easy to understand why public consciousness of electric refrigeration makes itself felt when it comes to selecting the features of the kitchen.

The average housewife, who after all is the party who selects the apartment, has, by virtue of the above, established in her mind fixed ideas of what she wants to find in the kitchen of an apartment when the time comes to look for one. The public idea of the necessity and advantages of electric refrigeration goes a step further than simply the term "electrical refrigeration." Every day associations with users, and their experiences, plus their own experiences in living in apartments, has definitely created in the prospective tenant's mind a standard of quality in the type of refrigerator represented to her. While at first glance this may seem superficial at this time, yet it follows along the natural principles of selection which can be duplicated in practically any other field.

When you stop to consider, it wasn't so long ago that in the automotive field the term "automobile" completely covered the automotive industry. Today, however, due to the user and the publicity, you will find that it is an automatic action on the part of the purchaser of an automobile to select the name of a car—first, based on performance in the hands of a friend, and second, upon how she considers the particular features of the machine conforms to the ideas she has had regarding its value to her. Obviously, to the prospective tenant, the dangers of improper refrigeration have been multiplied to the extent that he or she is perfectly justified in demanding quality, in preference to the term "electrical refrigeration."—*The Superintendent.*

An Editor on Wheels

Stories of Interesting PLACES in the Refrigeration Industry

By GEORGE F. TAUBENECK

Marshall, Illinois

One thing is unique about Marshall, Illinois. In almost every other respect it runs true to form, a small middle-western town with friendly, simple, honest, home-loving and loyal citizens, with history and traditions, with stores and homes and filling stations and a court house.

Its particular uniqueness lies in the population total. The last census lists Marshall as having a population of 2,222. This number appears on signboards stuck near the city limits at each of the four entrances to the town.

No capital of this toot-toot figure is made by the citizenry, however. The town is much prouder of the fact that two cross-continental highways, the National Old Trails and the Dixie Highway, intersect in the midde of town. Municipal advertising, and many firm letterheads, carry the slogan: "Where the Highways Cross."

Thousands of passenger automobiles, hundreds of trucks and dozens of motorbuses (33 bus lines ply through Marshall) roll over those two transcontinental highways through the center of town every day.

Hence, opportunists in the town make something of an effort to extract cash from these streams of through traffic.

Filling stations rear red and yellow heads up at every other corner on each of the big highways. Sometimes there are two or three gas stations to a corner.

In front yards of at least a third of the houses along these lanes are signboards proclaiming that the weary tourist may find lodging within at reasonable rates.

And the restaurants are almost as numerous as the churches.

If we were given just one word in which to epitomize Marshall, we would choose "doze."

No factories of any description are located in the town; crime and vice seem to be non-existent; nothing of a startling nature ever happens.

Retired farmers make up a considerable portion of the citizenry. Others are chiefly shopkeepers whose trade is largely rural.

People there live lanquid, unhurried, neighborly, entirely friendly lives.

They transact a leisurely business on week days, work fast on Saturday when the farmers come to town, go to church Sunday morning and evening, take short automobile rides Sunday afternoon.

One moving picture house, which runs five nights a week, offers the only night life to be had. Occasional church social functions, home talent plays, and affairs sponsored by the high school supplement the week's quota of talkies.

Two or three bridge clubs meet regularly. Similar women's groups get together, not to play cards, but to stitch doilies, embroider pillow cases, and talk about the vagaries of husbands and the bright sayings of children.

Dancing, to Marshall, is still pretty much a pastime ordained by the devil.

Marshall is a small edition of Boston, minus the snoot. It is old—one of the oldest municipalities in Illinois, and much older than Chicago. Oldtimers can tell you glamorous stories of its past. Tradition lingers on every corner, behind each of the stately old trees.

The populace is as intensely loyal as that of Boston, and fully as contemptuous of the claims of other cities. Good enough for their grandfathers and great-great-great grandfathers, the town is good enough for Marshall folk.

Its men have played important parts in the building of Illinois, and even in the making of the Northwest Territory. The dignity of age and of ancestry rests on its shoulders.

Aristocracy—the variety which is bred of time and tradition—often is something of a family affair. And that is true of Marshall. Everybody seems related to everybody else.

Newcomers come in, are quickly absorbed and naturalized, and see their children married into the tribe.

Befitting a town of its repose, Marshall has a glorious array of trees, which march down the streets in double and sometimes quadruple file.

Streets are wide, unusually so. Houses are set well back from the roads, leaving great areas of front yard. And in these yards are trees. Giant oaks, poplars, maples, pines, and a few sycamores.

Spring and summer are cooled by oceans of shade. Fall is embellished by oceans of leaves. And in winter the air overhead is matted with snow-encrusted branches. It all makes for beauty and majesty and solemnity.

Two institutions in Marshall give rise to pride, enthusiasm, and partisanship. They are the band and the high school.

All winter long the band practices. In the summer it gives concerts each Thursday night. And the concerts are good, well balanced, popular.

Repertoire ranges from Wagner, Brahms, and Tschaikowsky to Sousa, K. L. King, and even Ted Fiorito and Gus Kahn. Everybody seems satisfied.

During these band concerts the public square is barricaded, detouring all traffic.

Cars are parked in four lanes, people swarm all over the capacious court house yard, drug stores and confectioneries are packed with patrons clamoring for ice cream cones and soft drinks. (A drunken man in Marshall is almost as rare a sight as a murder).

Sometimes the band journeys to nearby cities and parades down principal streets, or gives a concert. Its work is invariably praised to heights. And Marshall chests swell another inch or two.

In season the high school provides first-class football, basketball, dramatic and musical entertainments. The town anticipates and post-mortems these happenings for weeks.

The football games are the big events of the year for Marshall, bar nothing.

Not infrequently the local squad "cleans up on" schools which have enrollments greater than the entire population of Marshall. Celebrations of no mean consequence follow.

Editors of metropolitan newspapers (Chicago, St. Louis, Indianapolis) would be highly flattered if they could know how much their papers influence the thinking and motivate the conversation of Marshall's inhabitants.

On the street corners, in the stores, at the civic club dinners (Rotary is strong), in the homes, at informal gatherings of friends and neighbors, even from the pulpits, the talk generates from the front pages of the daily papers.

Murders, love-nest raids, and divorce suits do not interest these people so much as do the maneuverings of politicians and statesmen, the utterances of men in the public eye, and happenings in sportdom.

Crime, the stock market, and the juggling of mighty corporations are of scant interest to Marshallites because these things have little relation to their daily lives.

But national sport and politics are their daily bread and meat of conversation because *local* politics and local sports mean much to them. The World's Series, prize fights and Big Ten football games are more real and earnest to these people than many events in their own lives.

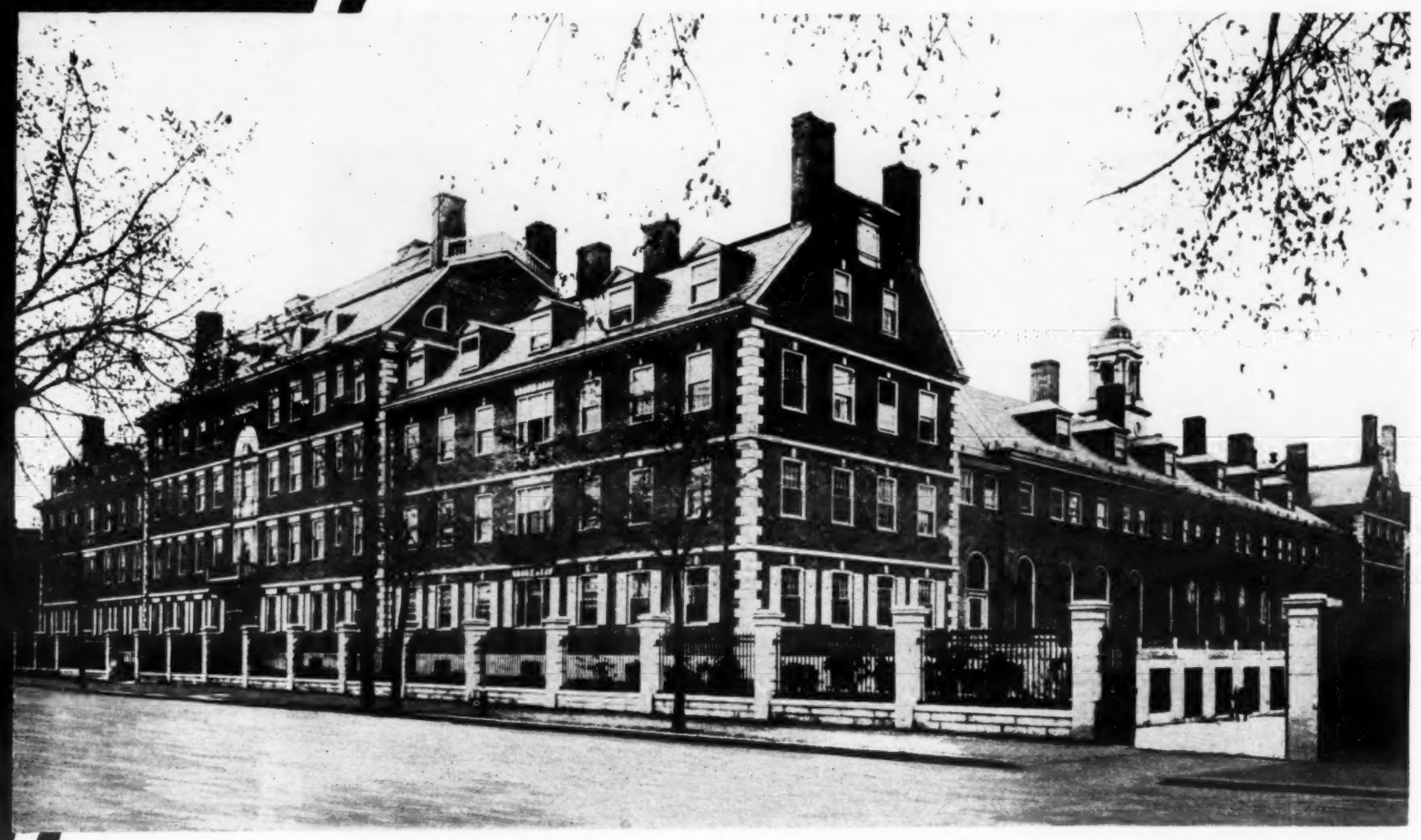
And they follow the doings of Congress, the state legislature, the President, and the governor as closely as does Will Rogers.

People living in Marshall let the taste of life linger in the mouth. They chew facts slowly, ruminatively, and aren't inclined to swallow things whole—as will some of their city cousins.

Life there is unhurried. It is as expansive as the world brought in by newspapers and the radio. It is also as circumscribed as that of a mutually devoted family.

Fights are rare; so is antagonism of any description. Stakes aren't high; hence, competition does not become bitter. People accept and like one another as a matter of custom.

Peaceful, kindly, loyal, friendly, leisurely, bovine, conservative, unimaginative, traditional, proud, satisfied. A true middle western town.



SMITH HALL — HARVARD UNIVERSITY

Harvard University, Cambridge, Mass., has adopted a new housing plan — similar to the one of Oxford, England — consisting of a number of small Colleges under the University. Each one of the groups has students living, eating, sleeping and studying in the same set of buildings.

The Boston Branch of the Seeger Refrigerator Company has equipped a number of these groups with

CABINETS BY

Seeger

SAINT PAUL

SEEGER REFRIGERATOR COMPANY

232 Fourth Ave.
Fourth Ave at 19th Street
NEW YORK, N. Y.

Statler Building
BOSTON, MASS.

655-57 So. LaBrea Ave.
LOS ANGELES, CALIF.

666 No. Wabash
CHICAGO, ILL.

Little Stories of Interesting PEOPLE In the Refrigeration Industry

THE EXPANSION VALVE

By George F. Taubeneck

Little Stories of Interesting IDEAS In the Refrigeration Industry

Fireplace, Green Color Scheme, and Isabelle

Who doesn't like a fireplace when wintry winds are crooning outside? Being reasonably human, the editorial staff of the NEWS enjoys a fireplace, books, soft lights, and home-cooked meals as much as you do.

Hence the editorial quartet—which got together in a lakeside cottage last summer to lay plans for the fall campaign, then decided it would be a good idea to continue bunking together in an apartment—has moved into a house which has a fireplace.

An undeviating green color scheme, plenty of room for books and guests, and a southern mammy cook (her name is Isabelle) who asks, "what would yo-all lahk foh brekkfuss in the mawnin'?" go with the fireplace.

Sure. Glad to see you.

One reason for the move was the urgent necessity for finding some place large enough to contain behemothian longitude and latitude of the big blonde Viking from the plains of Illinois (Jack Adams) who is in charge of production.

The Man Mountain of the Prairies, who has a prodigious capacity for both work and food, needed an appropriate background. He has it now.

* * *

Dramatic Moment

For our first dinner in the new house we had a distinguished guest, Stanley Dennis.

Formerly editor of *Electrical Record* and editorial director of the Gage publications, Mr. Dennis looks back upon a long journalistic career which has been as full of color and adventure as a novel by Rafael Sabatini.

At this dinner Mr. Dennis was recounting an event which occurred when he was a newspaper reporter in Rockford, Ill.

The affair was a dinner given for inmates of the Rockford jail, a dinner which cost something like fifty dollars per plate.

Mr. Dennis was picturalizing the scene for us in his vivid manner, and finally drew his picture as far around as the table at which he had sat during this unique banquet.

"I sat here," indicated Mr. Dennis, "Jim Blank of the Gazette was there, on this side was John Adams of the Star . . ."

"That," interrupted John Adams of ELECTRIC REFRIGERATION NEWS, "was my father!"

It was a dramatic moment. Mr. Dennis sat stunned for a moment, arose from his seat, went around to the head of the table, where Jack was sitting, and gripped Jack's hand, greatly moved.

"I worked shoulder to shoulder with your father," declared Mr. Dennis, "and shared many a story with him. He was a good newspaper man."

Jack, of course, was quite happy.

* * *

Stanley Dennis

Many readers of this kolyum will know Stanley Dennis. Many others are familiar with the papers he has edited. (In addition to his Gage connection, he was for a long time associate editor of *Electrical Merchandising*).

Those who haven't met him have missed one of the most entertaining raconteurs and dispensers of anecdotes now at large.

Electrical appliances? Let him tell you a choice one about the Maytag of Maytag washing machines.

Inventions? He can describe down to the last mechanical echo the Goldberg-rigged home of O. H. Caldwell, of *Electronics*.

Diplomats? His toothsome yarn about the return of Owen D. Young from Europe after the negotiation of the Dawes plan is a classic.

Politics? By all means hear his tales of the Bull Moose convention of 1912 in Chicago, which he covered for the old *Chicago Journal*.

Journalists? He has worked with and knows stories about author and playwright Ben Hecht ("The Front Page," "Erik Dorn," "A Jew in Love"), Editor Richard J. Finnegan of the *Chicago Daily Times*. Floyd Parsons ("Everybody's Business" in the *Saturday Evening Post*), the talented father of popular sportswriter Westbrook Pegler, Paul Gallico, sports editor and regular contributor to *Vanity Fair*, Mrs. Paul Gallico (daughter of famed columnist B. L. T.), and so on *ad infinitum* but never *ad nauseam*.

How Would You Like To Be in this Picture?

G. E. "Toppers" from the northern zone will be treated to a week's vacation in Bermuda beginning Jan. 16. Golf, tennis, fishing, and just plain loafing comprise the program. Here is a typical scene.

In case you'd like to know a bit about a prominent editor, we might call attention to the smiling but searching brown eyes, the modestly curling grayed hair, the almost pugnacious jaw and the firm lips, the composed manner and friendly mien, the deep and resonant voice, the retentive memory and the adhesive grasp of facts, the liberal attitude and progressive ideas, and the unfailing good humor of Stanley Dennis.

His specialty is research. He is doing work of this character for the 1932 Refrigeration Directory right now. And take our word for it, gentlemen, the information he is gathering will make the Directory a distinguished book.

It's a Business News publication, of course.

* * *

Everything but an Electric Refrigerator

With one highly important exception, the new home of the NEWS editorial staff is well equipped. An oil burner, washing machine, vacuum cleaner, radio, two-car garage and two cars, advanced lighting, and what not. But no electric refrigerator.

Something, of course, should be done about that. But what? That the editorial staff of ELECTRIC REFRIGERATION NEWS should eat food kept in a wheezy old ice box of the maple-sawdust-and-zinc variety is unthinkable.

Yet, for us to choose a particular electric refrigerator in these days of lusty competition is a task delicate.

Bill Lands a Beauty

Bill Seroy, West Coast representative for Mayflower refrigerators, wades the Klamath River profitably.

Often members of the editorial staff of the News are asked by outsiders just what is the best electric refrigerator. ("Confidentially, now, give me the inside dope on this thing.") The answer, invariable and true, has been that we don't know.

Now that we have graduated from the restaurant class into the dinner-at-home caste, however, we can't stall this personal test thing off much longer.

Some day we're going to answer this apparently all-important question with: "Yes, we've been using an Aprilshower model Frigidator with the Monitor Bottom (dependable refrigeration powered for the tropics) for some time, and find it very satisfactory."

* * *

Star Home Testing Laboratory

To anybody who thinks this unavoidable sanction might be worth having, we have a plan. The house is large. Plenty of room for not only one electric refrigerator, but half a dozen. Fact is, we need that many to store the food needed to keep Carnera Adams going.

So, gentlemen, we're open for business. Any concern which would like to place an electric refrigerator on test in the Star Home Testing Laboratory (the "Star" comes from the first letters of the last names of the inhabitants and research workers: Schaefer, Taubeneck, Adams, Redeker) is hereby invited to do so.

Then, when somebody asks us our confidential opinion of your refrigerator, we can say: "We use it in our own home. Isn't that recommendation enough?"

The Star Home Testing Laboratory is also prepared to make unbiased, unscientific, unprofessional, and unskilled reports on accessories and whatnot such as ice cube trays, ready drink mixers, vegetable plans, quick-frozen foods, or what have you. We're starting with one G. E. water bottle. Who's next?

* * *

Hay Fever Cure

We had occasion to call up Copeland's Mr. McElhinny a few days ago. Always we're glad of an excuse to talk with Mac, for he usually has something to say which either sets us thinking or puts us in a better humor.

The pretext for talking with the Copeland sales chief this time was a letter written by Frank J. Inch, associate dealer in Cleveland for the Cushman Refrigeration Co., which distributes G. E. refrigerators in northern Ohio. Harold Green of Cleveland sent us the letter.

Here is the letter, which we read over the 'phone to Mr. McElhinny:

"I was having a little conversation the other day with an owner of a General Electric refrigerator when she said to me, 'You know I have been suffering from hay fever for a number of years.

"'Well, I have made a remarkable discovery.

"'I found that by opening the refrigerator door several times a day and breathing deeply the cool, dry air which came out, my hay fever condition not only improved, but was actually cured entirely in due course of time.'"

* * *

McElhinny, Like Lord Kelvin, Thinks of A Better Way

It seemed to us that Mac ought to know about this, for he has long been seeking something to alleviate his wife's suffering from a remarkably tenacious case of hay fever.

But Mac was 'way ahead of us.

"Say," he said. "We're going to chase hay fever out of our house just as fast as we chased out Old Man Depression this year. A room cooler does the trick.

"It's a lotta bunk to say that refrigerated air will positively cure hay fever. But it does make the patient feel much better."

To those electric refrigeration salesmen who have made first efforts, possibly somewhat gingerly, to sell these new-fangled devices known as room coolers, we offer this as Sales Idea No. 1:

Every hay fever sufferer is a prospect.

And judging by the lengths most hay fever addicts will go to try to find a cure for their malady—and the number of nostrums they will sample—selling room coolers to this class shouldn't be so difficult.

* * *

George N. Brown

In answer to questions from readers of the NEWS the Biographical Department of this sheet presents herewith a few facts about George N. Brown, whose picture recently appeared on the front page of the NEWS in connection with an announcement of his appointment as manager of the Electric Refrigeration Bureau.

After his graduation from the electrical engineering department of Cornell university, Mr. Brown worked for eight years with various electrical railway companies.

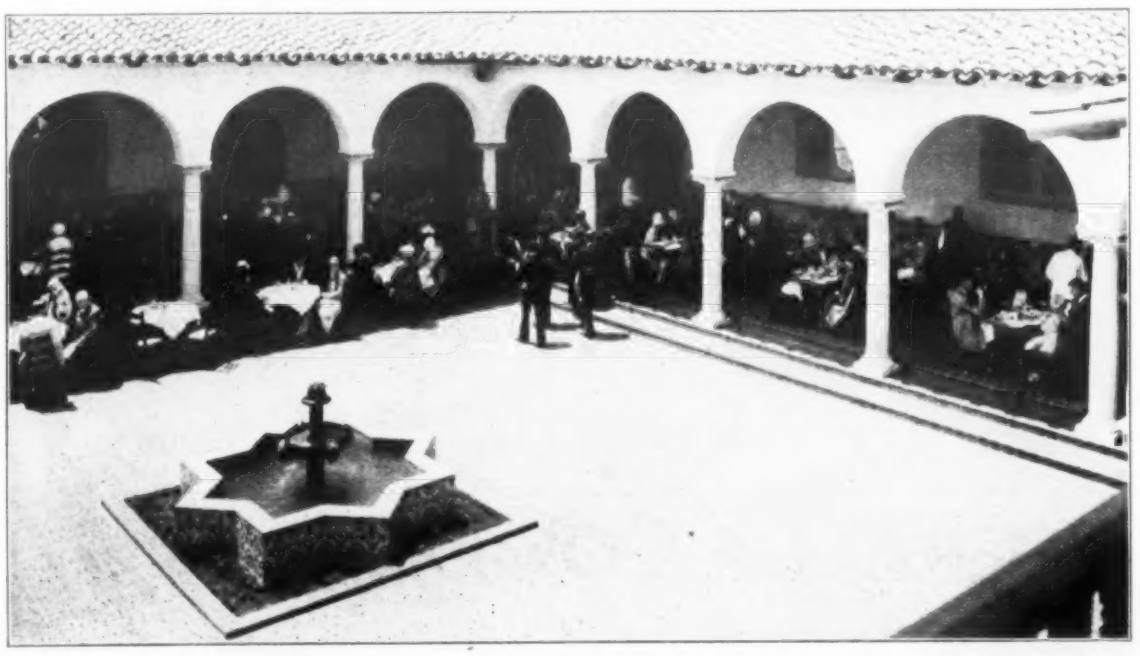
For three and a half years he served in the United States army, at first on the Mexican border, and then in France as a captain of engineers.

Following the war he became manager of the New York City office of the Pittsburgh Transformer Co. Later he was transferred to Pittsburgh to take up duties as vice president in charge of sales of that company.

In 1927 he was made district manager at Philadelphia of the Ohio Brass Co. His next move was to New York City, where again he served as district manager for the Ohio Brass Co.

Mr. Brown will devote his entire time to administrative duties in connection with the expanded campaign planned by the bureau for 1932.

Troubadouring in Old Mexico

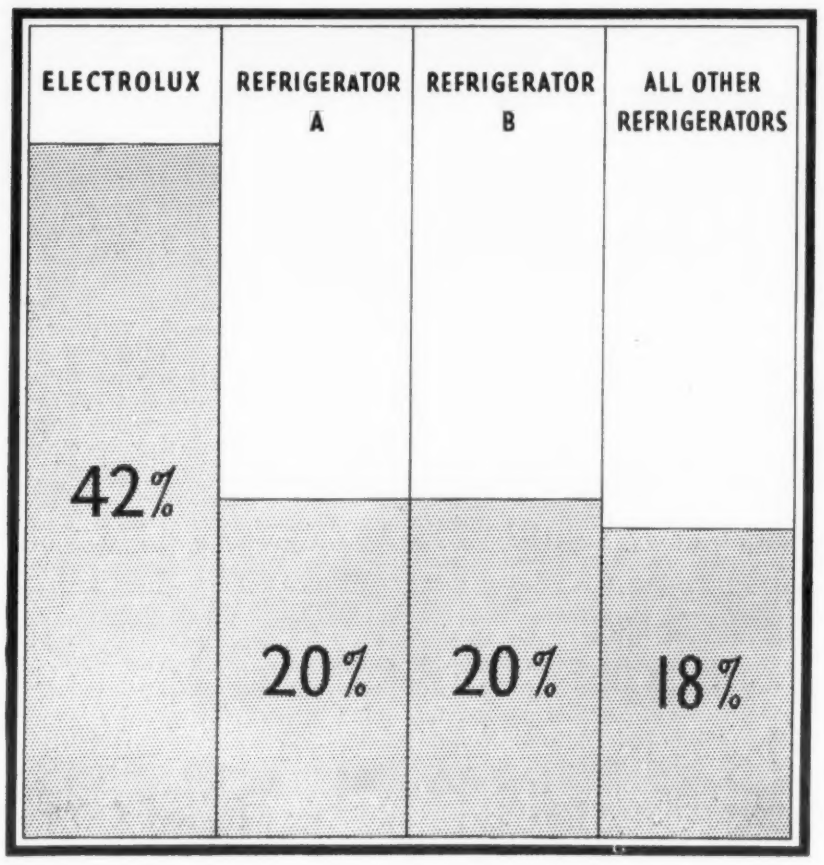


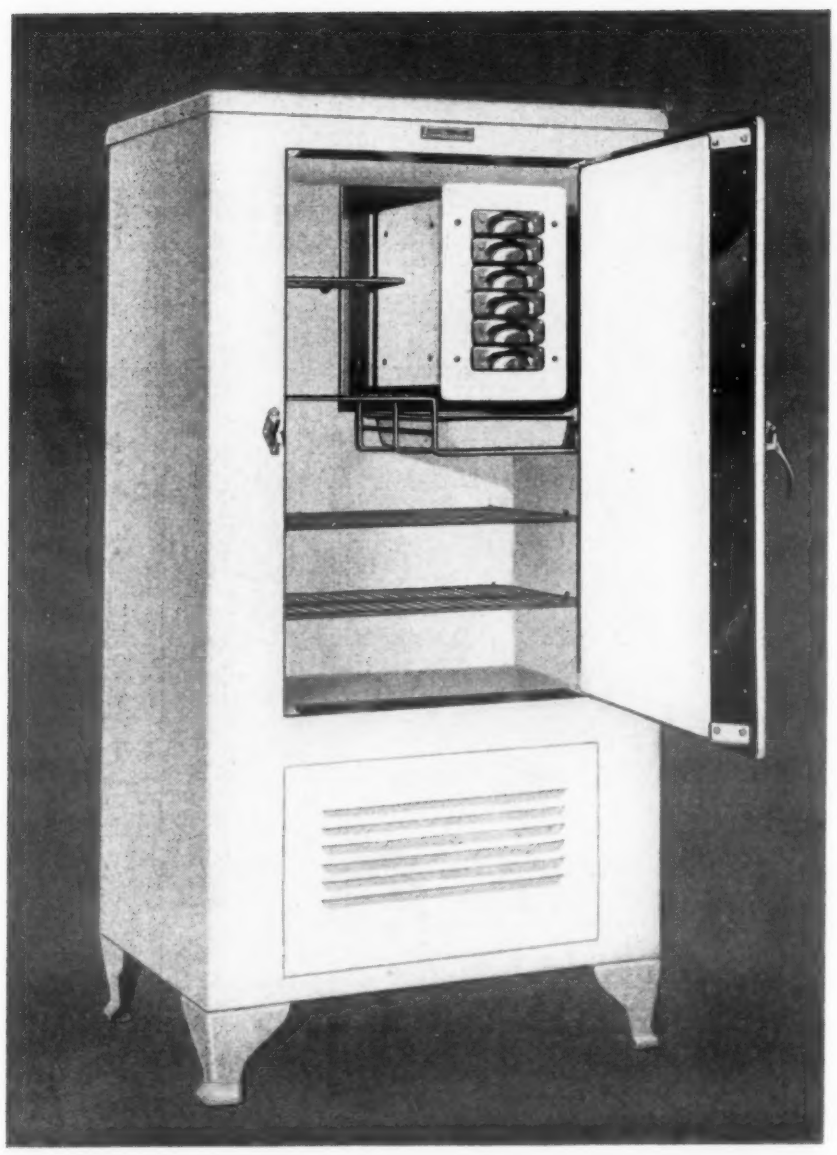
One of the stops on the vacation tour which G. E. "Toppers" from the western zone will make is Agua Caliente, Mexico, a patio of which is shown above. Other stops include Hollywood, Tia Juana, and Catalina Island.

ELECTROLUX 2-1 FAVORITE

in popular Brooklyn apartment district!

Survey conducted in Bay Ridge section of Brooklyn, N. Y., shows that in apartments of 16 families or over, Electrolux has twice as many installations as its nearest competitor.





DO APARTMENT builders and owners buy more of one make of automatic refrigerator than another? Why?

Here are two questions refrigerator salesmen must ask themselves frequently.

And here's the answer to the first, returned by one of Brooklyn's finest residential districts:

> **Electrolux is "hands down" favorite. Twice as many Electrolux as any other make. More Electrolux refrigerators than those of its two nearest competitors combined. A total of 42 Electrolux out of every 100 automatic refrigerators!**

The "why?" is this:

> **Housewives prefer Electrolux. And builders and owners aim to rent. Therefore, they install Electrolux. Electrolux saves the tenants money. Saves the landlord trouble and refrigeration complaints.**

As a result, Electrolux salesmen are enjoying the greatest opportunity the refrigeration industry has ever offered —for increased profits! Electrolux Refrigerator Sales, Inc., Evansville, Indiana.

A tiny gas flame takes the place of all moving parts

ELECTROLUX THE *Gas* REFRIGERATOR

RECIPROCITY TREATY TO GO TO CONGRESS

NEW YORK—A bill to increase the foreign commerce of the United States through the negotiations of treaties of reciprocity will be introduced in Congress by the American Exporters' and Importers' association.

The bill reads:

"Whereas, in order to restore and maintain domestic prosperity, it is urgently necessary to secure additional foreign markets for the sale of the surplus products of our farms, mines and factories; and

"Whereas, prohibitory duties are now imposed by many foreign countries on importation therein of the products of the farms, mines and factories of the United States; and

"Whereas, owing to existing financial conditions in foreign markets, payment for American exports must necessarily be made in merchandise rather than in money;

"Now therefore, be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled:

"That for the purpose of increasing the exportation of articles the growth, product, or manufacture of the United States, through the readjustment of duties on importations into the United States of articles of foreign growth, product, or manufacture, the President of the United States is hereby authorized and requested to negotiate treaties with foreign countries providing for mutual concessions in tariff duties for the promotion of reciprocal trade."

GLUECK CO. OPENS BRANCH STORE IN WICHITA, KANS.

KANSAS CITY—Glueck & Co. is opening offices in the ground floor of the Allis Hotel building in Wichita, having taken over the distribution of General Electric products, formerly handled by the Johnson Electric Co.

Glueck & Co. now covers Kansas and Missouri.

The stock in the Kansas City, Mo., store has been enlarged to include General Electric radios, washing machines, ironing machines, and Hot Point ranges.

E. L. Rumbaugh, formerly head of the southern district, will come to the Kansas City display rooms as manager of the home laundry equipment department, and H. C. Davis from the Kansas City, Kan., store will have charge of the radio and range department.

Home Economist

Miss Verna L. Miller heads the experimental kitchens of the Frigidaire Corp. at Dayton, Ohio.

Out in a Lake

CLEVELAND—The City of Cleveland has purchased a Frigidaire unit to keep the food of a group of brothers for a period of nine months at a time.

The unit has been placed in a small house five miles out in Lake Erie. The house, "Five-mile Crib," is used by the city for drawing in water for the city systems.

Several brothers live in this house for nine months at a time and communicate by radio.

MAJESTIC ADDS 2 MODELS TO FALL LINE OF RADIOS

CHICAGO—Two new models have been added to the new fall line of Majestic radios, one being a grandfather clock model and the other a highboy.

The grandfather clock model, known as "Sherwood," includes a Majestic model 15 type and includes an electric clock. The price is $84.50 except on the West coast, where it sells for $88.50.

The trade name of "Brucewood" has been applied to the highboy.

PACKAGED ICE SOLD BY VENDING MACHINE

LOS ANGELES—Mechanical refrigeration, to some extent, is employed in the vending of packaged ice by vending machines in Los Angeles.

The new ice automats are being placed near drive-in food markets in and around Los Angeles by the Booth Engineering Corp., which company recently acquired the rights to the manufacture and distribution of the automatic ice venders from Central Ice and Cold Storage Co., Los Angeles, originator of the plan of merchandising natural ice.

The mechanical ice man, distributed under the trade name of "Ice Serv," maintains an average temperature of 20° F. by means of a Globe Ice Machine Co. methyl chloride refrigerating unit installed in the lower section of the box. In the earlier models the cooling unit was located in a top compartment. The refrigerating unit is equipped with a 2x2 twin cylinder and is powered by a ¾-hp. motor.

Standing 12 ft. high and 8 ft. square, it has a capacity for 5,000 lbs. of packaged ice, each package weighing 25 lbs. It is constructed of wood and bound in metal. Nearly a dozen of these automatic ice servers are in use at present.

"Ice Serv" dispenses a 25-lb. cake of ice wrapped in brown paper and sealed, upon the insertion of 15 cents in a coin box at the right.

The mechanism is such that when the coins register, a positive long-time contact is established and within seven seconds the ice in its brown paper jacket is released through a door which springs back at the lower left of the machine. The same operation which sends the package on a conveyor to the delivery slide automatically releases the doors.

The ice is cut, sealed, and packaged by specially designed machinery, and the automats are serviced by refrigerated trucks. The trucks are equipped with a circulating brine system and maintain an average temperature of 20° F. like the boxes.

The trucks themselves are serviced at the ice-making and packaging plant, being backed up to the receiving platform and there brine at the zero point is pumped through coils at the top of the delivery wagon. Its capacity is three tons. The body, insulated with a 6-in. blanket of Kapok is built on a Ford chassis. According to the engineering company later trucks will be insulated with cork.

DUNKEL HEADS NEW STORE OF GENTSCH & THOMPSON

QUINCY, Mass.—Herbert C. Dunkel, former assistant retail sales manager for Gentsch & Thompson, Inc., General Electric refrigerator distributor, has been made manager of the distributors' new store at 72 Washington St. in this city, formerly the headquarters of Sylvester & Carson, once a dealer outlet for Gentsch & Thompson, Inc.

The new branch will take care of territory composed of Quincy, Hull, Hingham, Cohasset, and Wollaston. A sales organization is being built up now and the distributor looks for a considerable increase in business from this new territory.

Dunkel became associated with Gentsch & Thompson, Inc., last April in a sales promotion capacity, a month later being assistant retail sales manager in Boston.

B-K Sales Chief

Herbert L. Taube was recently appointed field salesman for the Brunswick-Kroeschell Corp.

Late at Night

ELY, Nev.—In this section of the country where the copper mines have been working part time and sometimes not working at all, it is next to impossible to sell electric refrigerators.

However, the Wilson-Bates Furniture Co. of this town, dealer for the Frank Edwards Co., Salt Lake City, Utah, distributor, conducted a special sales campaign recently and sold 35 General Electric refrigerators in a period of six weeks, which number is their quota for the entire year.

In the majority of cases the sales were made in the home of the prospect, usually late at night.

The Wilson-Bates Furniture Co. sales organization consists of O. G. Bates, president and owner; Earl H. Marriott, assistant manager; F. D. Smith, C. C. Sherwood and A. Mangum.

DISTRIBUTOR DISPLAYS

BROOKLYN—Specialty Service Corp., Brooklyn and Long Island distributor of Majestic electric refrigerators, conducted a refrigeration display at the Home Economics Cooking School which was sponsored by the Brooklyn *Daily Times*.

MODELS EXHIBITED IN PHILADELPHIA SHOW

PHILADELPHIA — Philadelphia's forty-first annual Food Fair, held in the Commercial Museum under the auspices of the Retail Grocers' Association for two weeks ending Oct. 31, included a display of commercial refrigeration.

There were more than 200 exhibitors whose displays occupied 115,000 sq. ft. of floor space. The attendance averaged 43,000 daily.

Features included the Fair Cooking School on a stage with a model kitchen and with accompanying lectures by experts. This school was conducted by Miss Vivian Schaal, home economist of the Philadelphia Electric Co., and her assistant, Miss Dorothy Heald. Marcel, pastry chef of the Penn Athletic Club, also lectured.

The Philadelphia Electric Co. had a model kitchen display space on the main floor, where a complete dinner was cooked daily.

In the Cooking School, Frigidaire, General Electric and Welsbach Hydrelectric refrigerators were used in rotation for demonstration purposes in the model kitchen.

Among the other displays showing refrigerators, refrigeration display cases and refrigeration units were the following:

Philadelphia Gas Works, Electrolux; Engineering Co. of Philadelphia, Servel and Excelsior; Standard Refrigerator Co., Inc., Philadelphia; Food Products, Inc., Standard Refrigerator Co. display cases; Copeland Electric Refrigeration Distributors, Philadelphia.

National Refrigerator Co., National display cases and Copeland units, Philadelphia; Elliott-Lewis Electrical Co., Inc., Philadelphia; C. V. Hill & Co., Inc., Philadelphia showrooms; Hill Dry-Cold display cases, Frigidaire and Lipman refrigeration machines; Electrolux, Inc., Philadelphia; Judson C. Burns, Philadelphia, General Electric refrigerators; Super Cold electric refrigerator, Philadelphia, and Ottenheimer Bros. display case, in Birdseye Frosted Foods display.

1,500 VISIT EXHIBITION AT GREEN BAY, WIS.

GREEN BAY, Wis.—More than 1,500 people visited the first annual radio and electric exposition held in the Labor Temple Auditorium of this city, Nov. 1, 2, and 3.

Among the refrigeration dealers displaying at the convention were the Knoeller Electric Co., Frigidaire; Platten Radio Co., Kelvinator; Van's Hardware, Copeland, and Vincent's Radio Shop, Kelvinator.

BIG REFRIGERATOR SALES THIS WINTER!

METRO-METER

The Metro-Meter 25 cents a Day Payment Plan moves boxes like magic. Be first! Reap the big profits in your community.

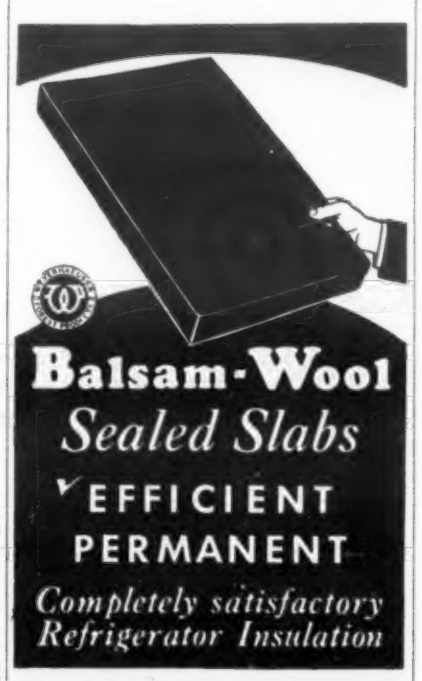
The J. P. Seeburg Corporation, creators and manufacturers of METRO-METER, have enjoyed a position of leadership in the field of coin-operated devices for over 30 years.

The Perfected Coin Payment Collecting Device

SALES DEPARTMENT
GENERAL REFRIGERATOR PRODUCTS
230 N. Michigan Avenue Phone State 2780-2 Chicago, Illinois

MANUFACTURED BY
J. P. SEEBURG CORPORATION
1510 DAYTON STREET CHICAGO, ILLINOIS

WRITE for Details and Prices



WOOD CONVERSION COMPANY
Industrial Sales Offices:
CHICAGO, 360 N. MICHIGAN AVE.
New York, 3107 Chanin Bldg;
Detroit, 515 Stephenson Bldg;
San Francisco, 149 California St.

IT KEEPS CELERY STIFF

All covers are flat, to allow for stacking when refrigerators are cramped for space.

THIS is the Vollrath Vitalizer that keeps celery stiff, tomatoes firm, lettuce brittle, radishes solid and crisp. Vegetables sprinkled with cool water, laid in this enameled container, covered with this enameled ventilated cover, then placed in the refrigerator—can't dry out.

Thus the Vollrath Vitalizer enhances the advantages of electric refrigeration. Its snowy brilliance and proportions harmonize with designs of electric refrigeration cabinets. And it is as lasting. Made of glass-hard, glass-lustrous enamel . . . three coats of enamel fused onto steel.

Other equipment profitable to include in each refrigerator are Vollrath white-enameled butter-dishes, milk-jugs, gelatine-molds. . . . Do you know our full refrigeration assortment? Write us. The Vollrath Co., Sheboygan, Wisconsin. Established 1874.

The name Vollrath in this form on the label assures you of genuine Vollrath Ware.

VOLLRATH

VOLLRATH WARE

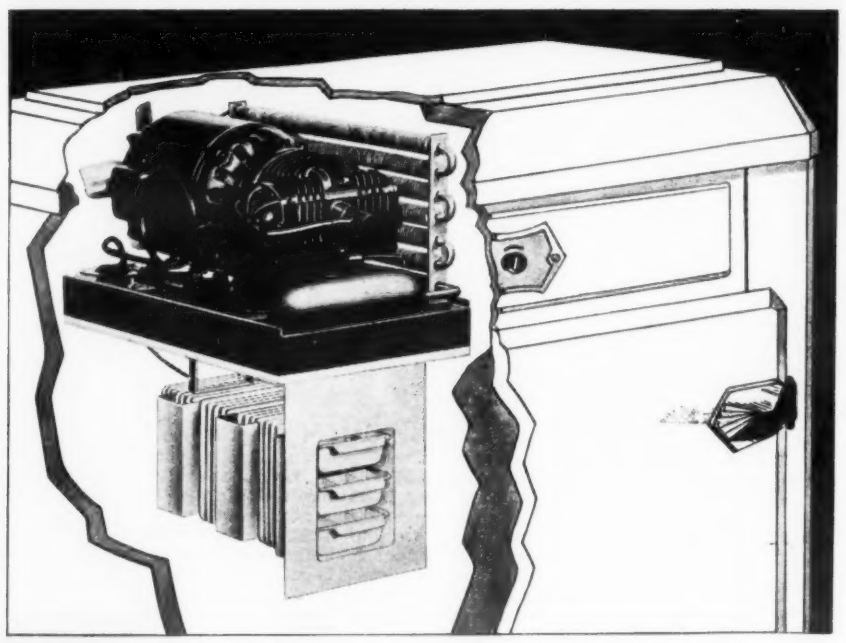
GIBSON

Distributors and Dealers

Territories are being rapidly closed. Wire at our expense for complete details.

MONOUNIT REFRIGERATOR

HERE IT IS!



Half the Space Half the Weight —and— Twice as Many Selling Features

Half the weight! Half the size and twice as many selling features—that's the Gibson MONOUNIT

Light, compact and sturdy—machined to the watchmaker's precision of accuracy, and *only three moving parts!*—No belts, no noisy chains to get out of order; a quiet, direct piston drive.

The "Balanced Simplicity" that means years on end of trouble-free service.

The Gibson MONOUNIT is top mounted in a compartment less than nine inches high—eliminating waste space and cumbersome, awkward lines.

Years in Advance

The Gibson MONOUNIT is today's outstanding achievement in electric refrigeration.

It has the mechanical simplicity hitherto unattained in refrigeration engineering.

Its simplicity of design, construction and operation proves *careful* research—*careful* testing and *careful* proving.

The Gibson MONOUNIT is the major refrigeration development for 1932. Destined to be the most significant in Gibson's fifty years of refrigeration history. The Gibson MONOUNIT refrigerator challenges comparison.

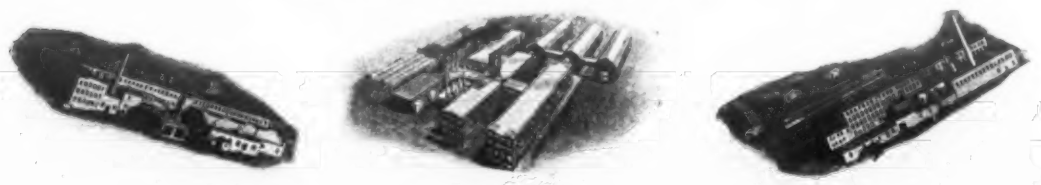
Such remarkable performance deserves the finest setting and here, too, Gibson stands preeminent. Graceful, well-proportioned cabinets unmarred by awkward lines.

Trim, smartly styled and richly finished in gleaming, special processed enamel and embellished with beautiful chromium plated hardware—irresistible to the feminine sense of beauty.

The *convenience* of Gibson MONOUNIT refrigerators is equally impressive.

Three-year Guarantee

GIBSON ELECTRIC REFRIGERATOR CORPORATION
GREENVILLE MICHIGAN



Gibson Dealer Cooperation

A National Advertising schedule has been formulated and the Gibson MONOUNIT will soon be introduced to the consumers in a powerful, effective campaign. Prepare for this sales response. There are models for every type of home, and Gibson offers to its distributors and dealers what is believed to be the *most unique, resultful and comprehensive sales plan ever devised.*

50 YEARS REFRIGERATION EXPERIENCE
OVER 3 MILLION SATISFIED USERS

Westinghouse Dealer Opens Salesroom of Early American Period Design

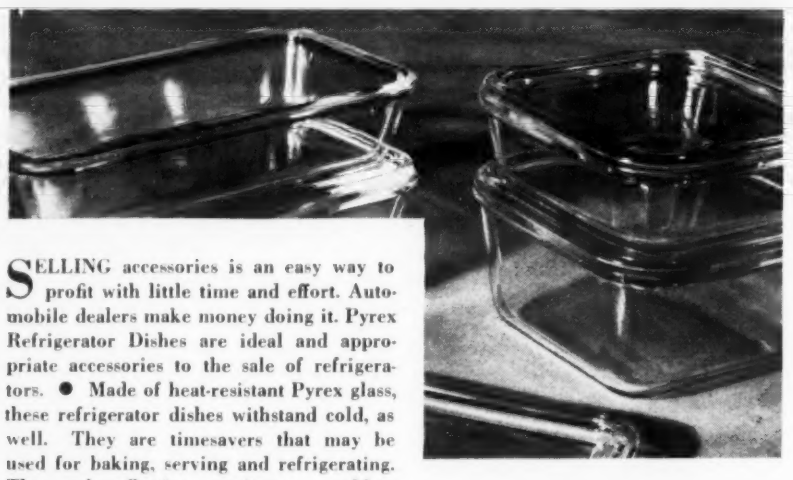
DALLAS, Tex.—A novel display room has been opened by the A. C. Rogers Co., according to E. I. Jones, manager of the refrigerator department, Westinghouse Electric Supply Co., general distributor for Westinghouse refrigeration throughout the southwest.

The display room takes its decorative motif from the early American period, using natural finish, knotty pine for its end screen, which complements the warmth of color in the wall paper.

The screen is one of the most interesting features of the room. Composed of pine, it takes quaintly carved Dutch half-gates and a pottery shelf for its decoration.

The shelf, typical of early American kitchens, is filled with colorful jars and dishes. A wide, deep window with vermilion grille gives the essential airy atmosphere. Orange drapes carry out the color scheme and add to the room's brightness.

Motor dealers do it, *why not you?*



SELLING accessories is an easy way to profit with little time and effort. Automobile dealers make money doing it. Pyrex Refrigerator Dishes are ideal and appropriate accessories to the sale of refrigerators. ● Made of heat-resistant Pyrex glass, these refrigerator dishes withstand cold, as well. They are timesavers that may be used for baking, serving and refrigerating. They make effective premiums . . . add to the value of the refrigerator . . . help clinch the sale. ● Pyrex Refrigerator Dishes retail for as little as 85c—set of four, $4.40. Get them from your jobber or write to Corning Glass Works, Corning, N.Y.

PYREX

REFRIGERATOR DISHES

Trade-Mark "Pyrex" Reg. U. S. Pat. Off.

BAKER ORGANIZATION NOW HAS 25 DEALERS

TOLEDO, Ohio—Twenty-five dealers are now selling Kelvinator refrigerators in the 11 northwestern counties of Ohio, which district constitutes the distributorship of the Howard C. Baker Co., which has its offices here.

When the Baker Co. took over the distributorship in May, 1930, there were a fewer number of Kelvinator dealers in this territory, and their sales promotional work was generally uncoordinated.

The present set-up consists of five dealers in Toledo and 20 scattered throughout the other 10 counties. Coordination is achieved through dealers meetings in which national plans and contests are discussed, and by factory-distributor-dealer cooperation for large scale advertising, in which the dealer will have his name mentioned.

Dealers conduct their direct mail campaign with the aid of the central offices rather than the distributor. Due to the far-flung nature of their organization no local contests are held, the dealers being urged to concentrate on the national contest.

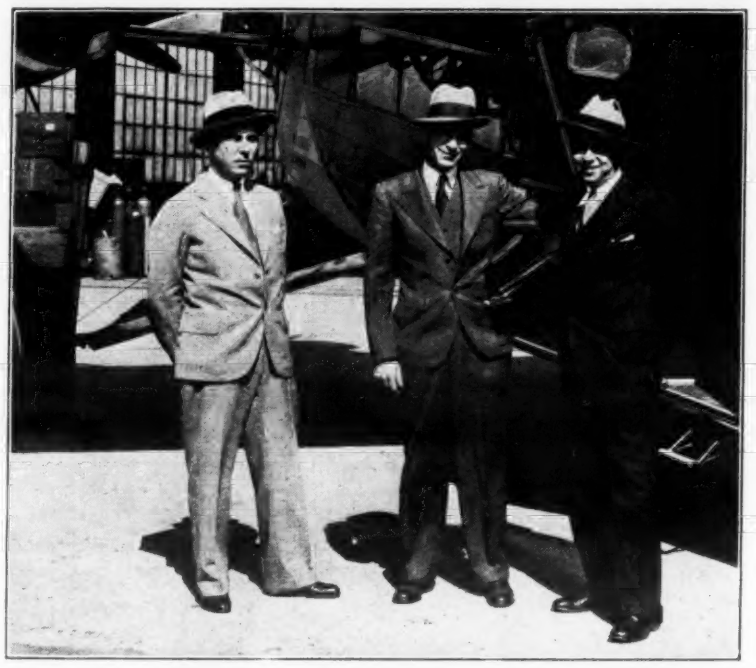
A majority of dealers in the Baker Co. distributorship are specialty merchandisers of one kind or another—radio, hardware or general household equipment dealers.

T. H. Skinner is director of the refrigeration department of the Howard C. Baker Co.

50 MAJESTIC DEALERS ARE ADDED IN CALIFORNIA

LOS ANGELES—Fifty new dealers have been added in southern California since Aug. 1, and refrigerator sales are 190 per cent more than quota, according to officials of Ungar & Watson, Majestic refrigerator distributor here.

On the Job for Mayflower



B. K. Williamson, Mayflower representative, and R. R. Lancaster and H. W. Falls, cover the southwestern territory of Richard & Conover.

249 REFRIGERATORS SOLD IN EMPLOYE CAMPAIGN

PAWTUCKET, R. I.—An employes' campaign, conducted by the Blackstone Valley Gas & Electric Co., resulted in placing 249 electric refrigerator jobs in the homes of that many employes. The campaign lasted for one month.

While the company always sells its products to employes at cost, the manufacturer of these refrigerators cooperated in giving an extra discount.

A contract signed by the employes specified that the refrigerator must be used in the home where the purchaser lives, that is, in his own home if married, or in the home of a mother, sister or relative with whom the person might live.

The units in the homes of its employes is valuable advertising, the company finds. Besides that number sold in this city, 100 were sold to employes in the company's Woonsocket office.

KNAPP ON SPEAKING TOUR OF WESTERN SALES GROUPS

DETROIT—John H. Knapp, vice president and director of sales of Norge Corp., has left on a six weeks' tour during which he will visit Norge distributors in the western part of the United States.

Mr. Knapp will speak to sales organizations in Chicago, St. Louis, Memphis, Dallas, Houston, San Antonio, Los Angeles, San Francisco, Portland, Ore.; Spokane, Butte, Salt Lake City, Denver, Hastings, Nebr.; Waterloo, Ia., and Minneapolis.

Vulter Heads Majestic Sales in Ohio

CINCINNATI—J. F. Vulter, former sales and service manager of the refrigeration department in the Boston division of Grigsby-Grunow Co., is now sales and service manager of the Schuster Electric Co., Majestic distributor.

Mr. Vulter will handle a 12-month sales promotion campaign.

What are

Dairymen
Ice Cream Manufacturers
Meat Packers
Restaurant Owners
Food Merchants

saying and doing about refrigeration ?

Are you keeping posted? Are you ready to take advantage of new developments *as they open up?*

Read the November issue of

Refrigerated Food News

It reports fully all important refrigeration developments at the Dairy Industries Exposition and Conventions, at the annual session of the Institute of American Meat Packers, at the meeting of the National Restaurant Association, at the convention of the International Association of Ice Cream Manufacturers.

In addition, this big November issue carries many news items about new equipment, new methods, latest trends—all of vital concern to you and your business.

You cannot be adequately informed about the food which refrigeration equipment protects unless you read REFRIGERATED FOOD NEWS every month.

One dollar brings you a whole year's information and service

BUSINESS NEWS PUBLISHING CO.
550 Maccabees Bldg. Detroit, Mich.

.....1931

Business News Publishing Co.
550 Maccabees Bldg., Detroit, Mich.

Enclosed is $1.00 in form of ☐ Check ☐ Money Order ☐ Cash for which enter my subscription to REFRIGERATED FOOD NEWS for one year.

Name .....

Attention of / or Care of \ .....

Address .....

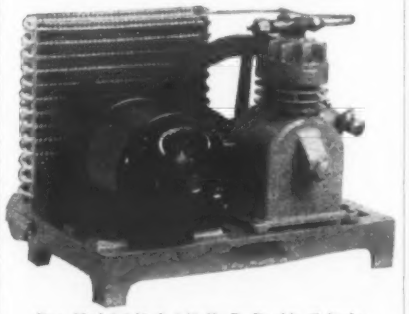
City and State .....

NEW MODELS

DICELER
ELECTRIC REFRIGERATION

—PRODUCTS—

BUILT TO STAND UP WITHOUT SERVICE CALLS



New Model 1/4 & 1/3 H. P. Double Cylinder Condensing Unit

Making Off-Season Profits Close Up Gap in Sales Schedule

With a complete improved line of Compressors and Condensing Units for Methyl Chloride or Sulphur Dioxide, the coming year will see greater progress for manufacturers and distributors who are standardizing on Diceler products. Our plan allows the assembler to advertise and sell under his own name. Diceler refrigeration products provide equipment for practically every refrigeration application, from the smallest apartment refrigerator to the largest market cooler. Capacities from 89 lbs. to 2,590 lbs. per 24 hours.

If you are interested in hearing further details, a letter will bring complete information.

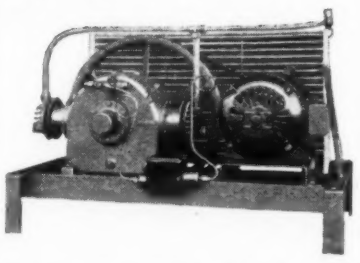
Deissler Machine Company
Greenville, Pa.

Eastern Sales Office, 437 Montgomery St., Jersey City, N. J.

Manufacturers of complete domestic and commercial refrigeration systems

BAKER

COMMERCIAL REFRIGERATING UNITS



THE PROFITABLE ANSWER TO EVERY REFRIGERATING NEED

* * *

A complete range of sizes up to 1½ tons' capacity per 24 hours, using Methyl Chloride as the refrigerant.

* * *

Backed by a complete technical service and a fair and clean-cut sales policy.

* * *

Baker traditional engineering leadership, a result of more than a quarter century of specialization in the refrigerating field, means extra built-in value in every Baker Product.

* * *

Write today. Full Details Gladly Furnished

Baker Ice Machine Co.
Incorporated
1518 Evans St. Omaha, Nebr.

"Internationally Better—Since 1905"

N. Y. BUSINESS CONDITIONS IMPROVE, FISKE STATES

ALBANY, N. Y.—Business conditions in New York state are improving, believes Paul E. Fiske, president of the Fiske Supply Co., Inc., distributor of Copeland electric refrigerators.

"Our business this year will show an increase of around 65 per cent over last year," Mr. Fiske stated. "The major portion of our business between now and the first of the year will be commercial.

"We are finding that dealers are buying merchandise in excess of what is required to take care of their immediate sales. They are anticipating future business, which is something they have not been doing for almost two years.

"This is further evidenced by the fact that everything we are selling is sold on a sight draft basis and if a dealer is paying out his cash for what he is buying he must have faith in the probabilities of improved business conditions in the immediate future."

TRENTON LIGHTING STUDIOS NEW COPELAND DEALER

NEWARK, N. J.—The Trenton Lighting Studios, 185 S. Broad St., Trenton, has been appointed a Copeland dealer, according to Benjamin Binder of the Binder Distributing Co., Copeland distributor for northern and central New Jersey.

Morris Lavine, proprietor of the Trenton Lighting Studios, will handle both the domestic and commercial lines, he has announced.

OAKLAND FRIGIDAIRE DEALER EXCEEDS QUOTA BY 50%

OAKLAND, Calif.—Pollard-Seagrave Co., Frigidaire distributor, has exceeded its quota by more than 50 per cent, according to Frank F. Pollard, president of the firm.

The 1931 quota was made 30 per cent higher than the 1930 quota. During October, the company doubled its quota.

Requests for Information

Readers who can be of assistance in furnishing correct answers to inquiries, or who can supply additional information, are invited to address ELECTRIC REFRIGERATION NEWS, mentioning query number.

Mercury Tubes

Query No. 586—"Will you kindly advise me where I can purchase Mercury tubes for controls?"

Answer—Cooper-Hewitt Division, General Electric Vapor Lamp Co., General Motors Bldg., Detroit; Mercoid Corp., 4201 Belmont Ave., Chicago; Detroit Lubricator Co., 5842 Trumbull St., Detroit.

Tray Manufacturers

Query No. 587—"Can you put us in touch with several concerns which manufacture aluminum ice cube trays for domestic refrigerators?"

Answer—McCord Radiator & Mfg. Co., 2585 E. Grand Blvd., Detroit; Hoosier Lamp & Stamping Corp., Evansville, Ind.; Fedders Mfg. Co., 57 Tonawanda Ave., Buffalo, N. Y.

Frigidaire Compressor Parts

Query No. 588—"Will you advise us where we can obtain spare parts for Frigidaire compressors? We would also like to obtain the address of a sylphon manufacturer (sylphon seal for stuffing box) same as used by Kelvinator and Frigidaire."

Answer—Valves, manifolds and fittings for Frigidaire compressors are obtainable from the Kerotest Mfg. Co., 2525 Liberty Ave., Pittsburgh, Pa.

Relative to a "sylphon seal for stuffing box," Fulton Sylphon Co., Knoxville, Tenn.; Clifford Mfg. Co., 565 E. First St., Boston, Mass.; Bishop & Babcock Sales Co., 4901 Hamilton Ave., Cleveland, O.; and Bridgeport Brass Co., 744 E. Main St., Bridgeport, Conn.

Refrigerated Truck Parts

Query No. 589—"Kindly furnish us with the names and addresses of manufacturers of and dealers in the following items for use in insulated and refrigerated motor truck bodies: (1) insulation; (2) door hardware; (3) compressors; (4) cooling units."

Answer—See the preliminary listings for the 1932 Refrigeration Directory which began in the Sept. 30 issue and have continued in subsequent issues of ELECTRIC REFRIGERATION NEWS and REFRIGERATED FOOD NEWS.

Coin Devices for Refrigerators

Query No. 590—"Kindly put us in touch with the manufacturers of coin devices for operating electric refrigerators on the installment plan."

Answer—In addition to the Meterice of America Co., Ltd., Pacific National Bldg., Los Angeles, Calif., we understand that the following concerns have coin-operated meter devices: Mills Novelty Co., 4100 Fullerton Ave., Chicago; Studner Bros., Inc., 245 Fifth Ave., New York City.

Query No. 591—"Have you ever heard of the electric refrigerator known as the 'Colde?' We have heard that it is made by the Service Electric Co. We have not been able to locate this company."

Query No. 592—"We should appreciate it if you could put us in touch with the manufacturer of the Elektro-Save clock and quarter meter. We notice this item is advertised for use with electric refrigerators and are desirous of communicating with the manufacturer as promptly as possible."

Export of Refrigerators

August Shipments Reported by the Bureau of Foreign and Domestic Commerce

	Electric Household Refrigerators		Electric Commercial Refrigerators Up to 1 Ton		Parts for Electric Refrigerators
	Number	Value	Number	Value	Value
Austria	16	$ 1,298	7	$ 940	$ 1,637
Belgium	75	11,723	2	275	4,718
Czechoslovakia	22	1,752	23	2,844	2,595
Denmark	88	7,101	6	1,033	2,237
France	202	11,844	43	5,957	26,459
Germany	81	8,796	16	1,561	7,598
Greece	12	1,343	3	454	480
Iceland	2	188	...	...	...
Irish Free State	28	2,324	...	...	644
Italy	54	6,373	22	2,616	3,951
Netherlands	4	455	23	2,374	1,432
Norway	33	2,477	7	697	1,777
Poland and Danzig	...	...	...	...	185
Portugal	7	1,379	...	...	398
Spain	15	3,290	6	753	1,429
Sweden	177	14,838	23	3,024	9,662
Switzerland	92	9,104	2	396	9,904
United Kingdom	230	27,629	7	1,092	13,553
Canada	836	93,251	61	15,556	68,635
British Honduras	1	129	...	...	...
Costa Rica	3	508	...	...	...
Guatemala	1	138	...	...	57
Honduras	4	670	...	...	34
Nicaragua	...	...	...	...	24
Panama	22	4,850	1	215	1,244
Salvador	...	...	...	...	107
Mexico	25	4,093	4	1,676	452
Newfoundland and Labrador	15	1,269	...	...	218
Bermudas	9	1,430	3	1,193	186
Barbados	...	...	1	405	10
Jamaica	...	...	...	...	162
Trinidad and Tobago	...	...	1	110	1
Other British West Indies	3	620	1	325	109
Cuba	191	27,584	10	1,925	1,069
Dominican Republic	3	578	...	...	...
Netherland West Indies	2	472	1	198	39
Haiti, Republic of	5	587	...	...	131
Virgin Islands of U. S.	1	330	...	...	...
Argentina	129	12,712	...	...	16,348
Bolivia	4	684	...	...	239
Brazil	97	9,477	7	1,482	3,506
Chile	2	433	...	...	764
Colombia	11	1,345	5	2,014	650
Ecuador	2	242	...	...	83
British Guiana	...	...	...	...	24
Peru	4	440	5	629	275
Uruguay	34	2,862	2	344	2,683
Venezuela	30	3,133	4	1,114	1,093
Aden	2	445	...	...	...
British India	45	5,212	...	...	2,247
British Malaya	2	257	...	...	105
Ceylon	6	994	...	...	...
China	1	78	3	679	...
Java and Madura	8	1,209	1	358	757
Other Netherland East Indies	1	95	1	439	60
Hong Kong	25	2,776	...	...	...
Japan	2	293	19	5,082	1,755
Philippine Islands	55	8,591	...	...	3,802
Siam	...	...	...	...	16
Australia	1	219	...	...	1,826
British Oceania	...	...	...	...	30
French Oceania	...	...	...	...	174
New Zealand	1	155	...	...	723
Belgian Congo	12	1,732	...	...	...
British East Africa	5	663	1	180	298
Union of South Africa	385	60,537	14	2,626	10,439
Gold Coast	...	...	...	...	531
Nigeria	5	624	...	...	354
Other British West Africa	10	1,258	...	...	16
Egypt	...	...	1	84	52
Algeria and Tunisia	99	8,827	...	...	1,997
Madagascar	2	380	...	...	...
Morocco	6	962	1	299	1,233
Mozambique	18	3,461	...	...	587
Other Portuguese Africa	1	117	...	...	...
Canary Islands	...	...	...	...	27
Other Spanish Africa	...	...	...	...	4
Total	3,264	$378,636	337	$ 60,949	$213,835
Shipments to Hawaii	471	61,126	71	9,524	1,140
Porto Rico	84	17,730	5	1,071	2,847

THE CONDENSER

ADVERTISING RATE fifty cents per line (this column only).

SPECIAL RATE if paid in advance — Positions Wanted — fifty words or less, one insertion $2.00, additional words four cents each. Three insertions $5.00, additional words ten cents each. All other classifications—fifty words or less, one insertion $3.00, additional words six cents each. Three insertions $8.00, additional words sixteen cents each.

REPLIES to advertisements with box numbers should be addressed to the box number in care of Electric Refrigeration News, 550 Maccabees Building, Detroit, Mich.

POSITIONS WANTED

ENGINEER, college trained, now employed as junior executive, desires responsible position with concern expanding their division of industrial and home air conditioning. Experienced in heating and ventilating; blowpipe and exhaust design; maintenance and production; experimental and compressor assembly. Willing to take responsibility for putting air conditioning department on money-making basis; capable sales engineer. $6,500. Age 30. Married. Box 386.

"METER ICE" Sales Manager who has successfully managed a large retail crew, selling on "meter ice" as well as regular contract plan, desires a position as factory representative. Have sold to specialty manufacturers, distributors, jobbers and dealers for over 10 years. Experienced in time-payment financing and credit work. Box 388.

SERVICE MANAGER, experienced, capable and energetic. Six years' experience in domestic and commercial refrigeration. Accustomed to handling sales and service engineering problems, directing installation, field service, shop service, maintaining stock room and delivery. Accustomed to handling men and getting enthusiastic cooperation. References. Box 389.

EQUIPMENT FOR SALE

OPPORTUNITY—Body plant for sale, complete woodworking, blacksmith, paint, metal and assembly departments, completely equipped. Office complete, raw material stock, good will, going active business now—all for sale as a whole—CHEAP. Now in litigation, is reason for selling. Located in small town near Chicago. Shipping facilities excellent. Labor conditions ideal. Chance to have a business of your own if you know the body-building business. Writing for particulars places you under no obligations. Box 390.

MISCELLANEOUS

WANTED—Responsible manufacturer, who must have equipment suitable for production of small condensing units and willing to consider proposal to build them for the trade. New units are up-to-date, silent and efficient. Superior to anything now available to assemblers, they will sell in competition to conventional belt-driven types. Address Box 377, Electric Refrigeration News.

REPRESENTATIVE needs addition to present line of automatic refrigerating valves for Cleveland and 200-mile radius. Box 391.

CLEVELAND DEPARTMENT STORES HOLD OPENINGS

CLEVELAND—The Higbee department store, which recently was moved into a new building, and the May department store, which recently opened a remodeled and enlarged store, both featured Copeland refrigerators in their openings, according to C. J. Hinger, refrigeration manager for the Frankelite Co., Copeland distributor.

According to Mr. Hinger, the Frankelite Co. does not propose to retail domestic models directly, but plans to appoint dealers in favorable locations about the city of Cleveland. At the present time they are planning to handle the sale of apartment house and commercial equipment direct.

Dealers who have taken on the Copeland line in Cleveland include: James C. Hill, Mills Distributing Co., E. Mantel, Robboy Electric Co.

Dealers at points outside of Cleveland are as follows: Central Hardware, Loraine, Ohio; Elyria Superior Electric Co., Elyria, Ohio; Home Appliance Co. at Wellington, Ashland, and Medina; North Dover Hardware, Bay Village, Ohio; C. L. LaReaux, Ashtabula, Ohio; and Park & Barker, Chardon, Ohio.

46 NEW ORLEANS DEALERS OPEN COOPERATIVE DRIVE

NEW ORLEANS, La.—Forty-six local electric refrigerator distributors and dealers have launched a city-wide cooperative campaign for the month of November. A large number of Telechron electric kitchen clocks have been purchased to be used as premiums for purchases of refrigerators made during November.

A series of specially prepared newspaper advertising copy is abetting the campaign. Machines represented in the movement are Norge, Leonard, Majestic, Frigidaire, General Electric, Servel, Electrolux, Copeland, Mayflower, and Kelvinator.

DEALER SELLS OIL BURNERS

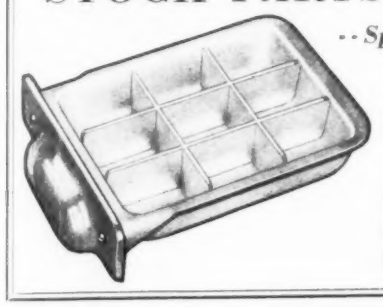
OMAHA—General Radio and Refrigeration Co., Frigidaire dealer, has undertaken the sale of both the Swift and Electrol oil burners.

BUYER'S GUIDE

Manufacturers Specializing in Service to the Refrigeration Industry

SPECIAL ADVERTISING RATE (this column only)—$12.00 per space.
Minimum contract—13 insertions in consecutive issues.

STOCK PARTS LOWER COSTS



--Speed Up New Model Production

Hoosier Stock Parts save retooling expense, eliminate profitless small operations, stop delays. We ship *from stock* to meet your production schedules. Send us your specifications for quotation on stock or special designs.

HOOSIER
LAMP & STAMPING CO., EVANSVILLE, IND.

ELECTROCHEF
The Modern Electric Range
The Ideal Sales Companion for your Electric Refrigerator
Some Distributor, Dealer Territories Now Open
ELECTROMASTER, INC. 1803 E. Atwater St., Detroit

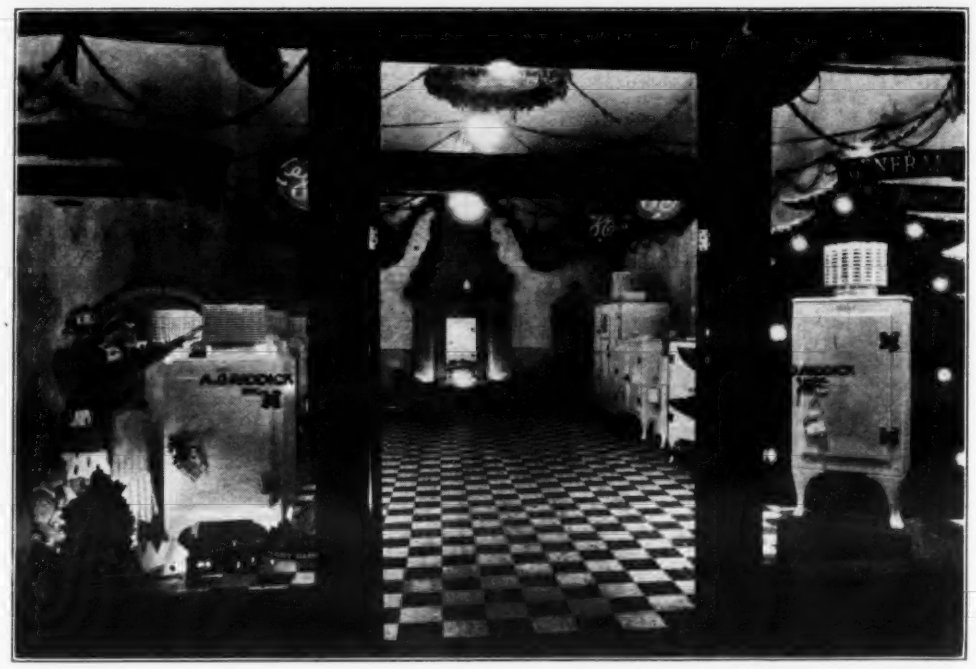
SPECIAL APPLICATIONS
Complete facilities and long experience at your service to build special designs, sizes and shapes of cabinets and coolers. Expert refrigeration engineering applied to your problems. Send sketch and description of your requirements. Blue prints and estimates will be furnished promptly.
Manufacturers of Soda Fountains and Commercial Refrigeration
VALERIUS CORP.
JEFFERSON, WIS.

Hard and Soft
Rubber Parts for Electrical Refrigerating
Ice Cream Cabinet Parts, including
Lid Collars, Sleeves, Brine Hole Stoppers, etc.
Specializing in Rubber Parts manufactured to customer's specification
Dryden Rubber Company
1014 S. Kildare Ave. :: Chicago, Illinois

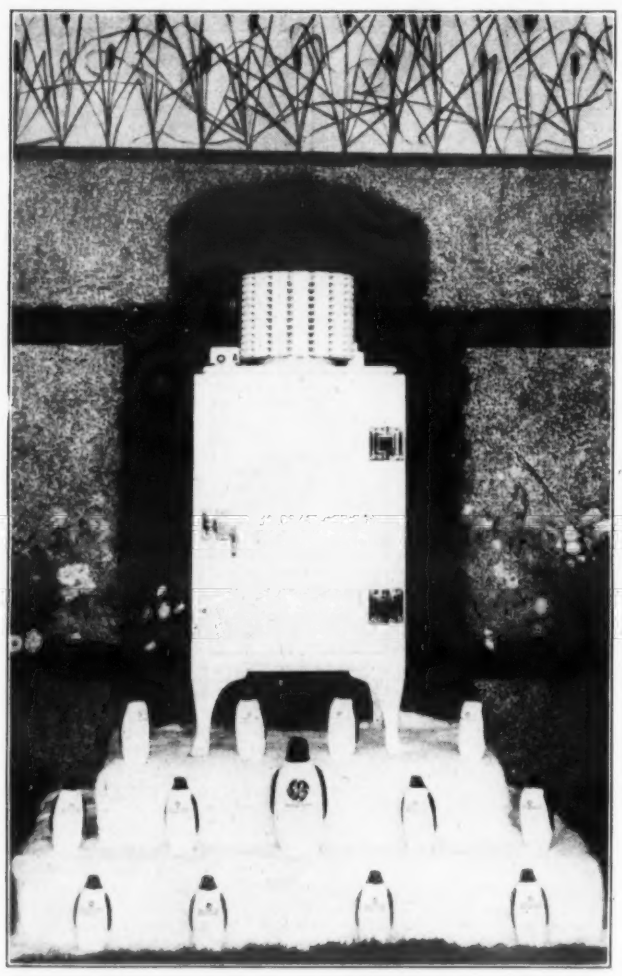
To Reach Industry Buyers
Use advertising under the Buyer's Guide heading on this page. Manufacturing executives responsible for the purchase of parts and materials, distributors and dealers looking for new ideas and sources of supply will be reminded of your company and your products through regular advertising on this page. Special low rates are applicable. Write for details now.
ELECTRIC REFRIGERATION NEWS
550 Maccabees Bldg. - - - Detroit, Mich.

Fall, Winter Trends in Window Displays

"The price of a 15-cent cigar operates an electric refrigerator for two days." This slogan was carried in a window display of the Blackstone Valley Gas & Electric Co., Pawtucket, R. I. The display was a sales puller.

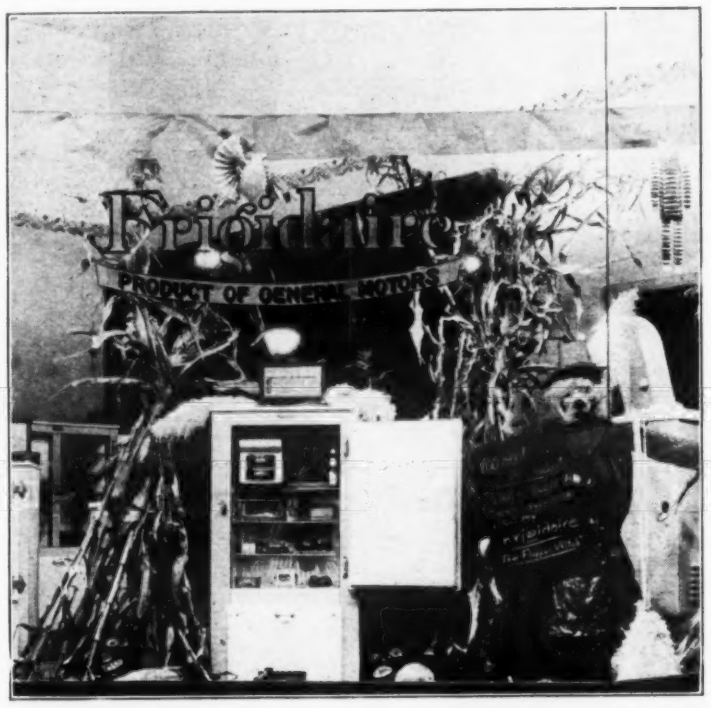


A bit ahead of the season is this Christmas window and shop display. The display was used by A. G. Riddick, Inc., General Electric distributor, Shreveport, La. The entire store carried the Christmas atmosphere.

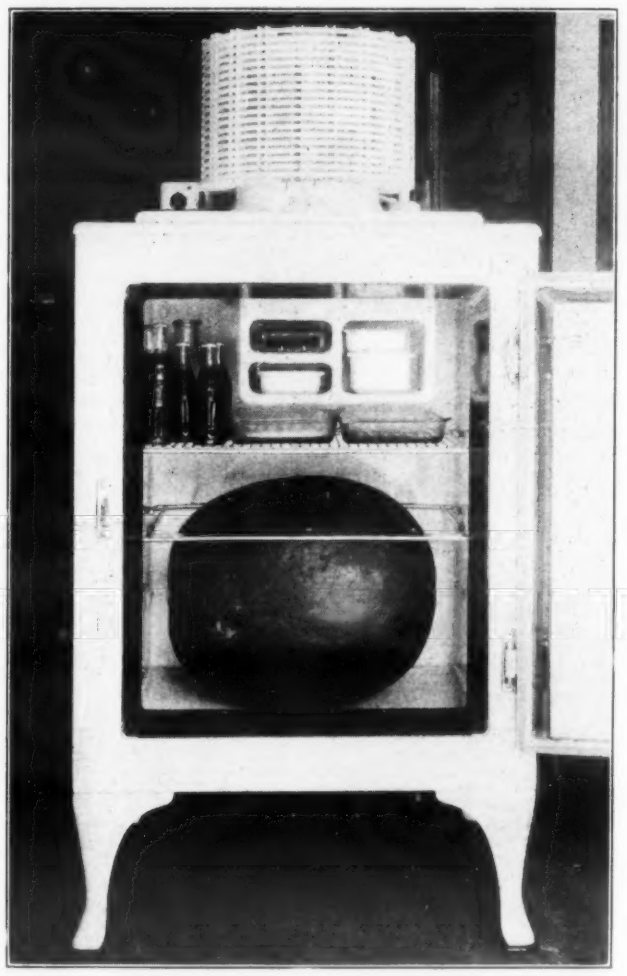


General Electric penguins formed the foreground for the display of Montana Power Co., Great Falls, Mont., while the unit was silhouetted against a background of oat heads and cat tails.

A Goblin's Threat



"The Goblin will get you if you don't get a Frigidaire," was the threat carried in the Hallowe'en window display of the San Jose, Calif., sales rooms of Frigidaire. Corn shocks and a witch formed the basis of the display.



This unit holding a 110-lb. watermelon was used in a window display of O'Bannon Brothers, General Electric distributor at Little Rock, Ark. The melon is only "fair to middlin' " in size.

In the desert country where the thermometer reaches 130 degrees F. at times, this scene was used by the Imperial Valley Hardware Co., El Centro, Calif., Majestic dealer.

An atmosphere of cool temperatures was given to the display of Kelvinator models in the Toledo Edison Co., Toledo, O. Frosted letters and fir trees created the atmosphere.

In Two Parts

Engineering Section

Part Two

ELECTRIC REFRIGERATION NEWS

Registered U. S. Patent Office

The business newspaper of the refrigeration industry

ISSUED EVERY WEEK
VOL. 6, NO. 11, SERIAL NO. 139

Copyright, 1931, by Business News Pub. Co.

DETROIT, MICHIGAN, NOVEMBER 18, 1931

Entered as second class matter Aug. 1, 1927, at Detroit, Mich.

TEN CENTS PER COPY
TWO DOLLARS PER YEAR

CONFERENCE ON SERVICE OPENED AT MANSFIELD, O.

Westinghouse Officials Speak Before 65 Engineers

By John T. Schaefer

MANSFIELD, Ohio—Nov. 16.—(Special wire to ELECTRIC REFRIGERATION NEWS)—Approximately 65 service engineers, representing practically all Westinghouse refrigerator distributors east of Denver, gathered here today for the National Service Conference of the Westinghouse Electric & Mfg. Co.

Meetings will be held every day until Friday under the direction of L. K. Baxter, manager refrigeration service department, to acquaint the service managers with the most approved methods of installing and servicing Westinghouse refrigerators.

The first speaker Monday morning was C. E. Allen, commercial vice president, who welcomed the delegates, explaining the necessity of the service man understanding his product thoroughly, and pointing out the importance of good service in relation to future sales.

Carl Taylor, manager of the refrigeration division, spoke next, stressing the permanency of refrigeration as a profession, and predicted the coming of a profitable year in 1932.

Mr. Baxter followed with a plea to service managers to secure an adequate appropriation for service.

He urged service managers to convey service information to all dealers, claiming that service costs can be materially reduced by proper knowledge of the subject.

E. B. Arnold, service manager of the central division, reviewed the cycle of operation for the different machines in the Westinghouse line.

Five committees were then appointed by Mr. Baxter. M. A. Bergstrom of Chicago, chairman, delivery and installation; H. E. Burrett, New Haven, chairman, dealer training; P. F. Sacco, Pittsburgh, chairman, the unit; M. O. Mosteller, Atlanta, chairman, the cabinet;

(Concluded on Page 5, Column 3)

NEW FRIGIDAIRE MACHINE COOLED BY WATER AND AIR

DAYTON—Introduction of a combination air and water cooled compressor was announced this week by Frigidaire Corp.

The compressor is making its first appearance in a large capacity water cooler, designed for use in steel mills and other industrial plants where the heat is excessive, and where the cooling of water to thirst-quenching temperatures presents a problem.

The new unit operates as an air cooled compressor until the head pressure builds up to a predetermined setting; then a valve permits condensing water to flow through the auxiliary water cooled condenser. The water cooled condenser is employed only when the heat is abnormal and the demand upon the cooler great.

Known as Model PW-612, the new water cooler in which the air and water cooled compressor will be used, will deliver 13 gallons of water an hour. The list price, it was announced, is $325.

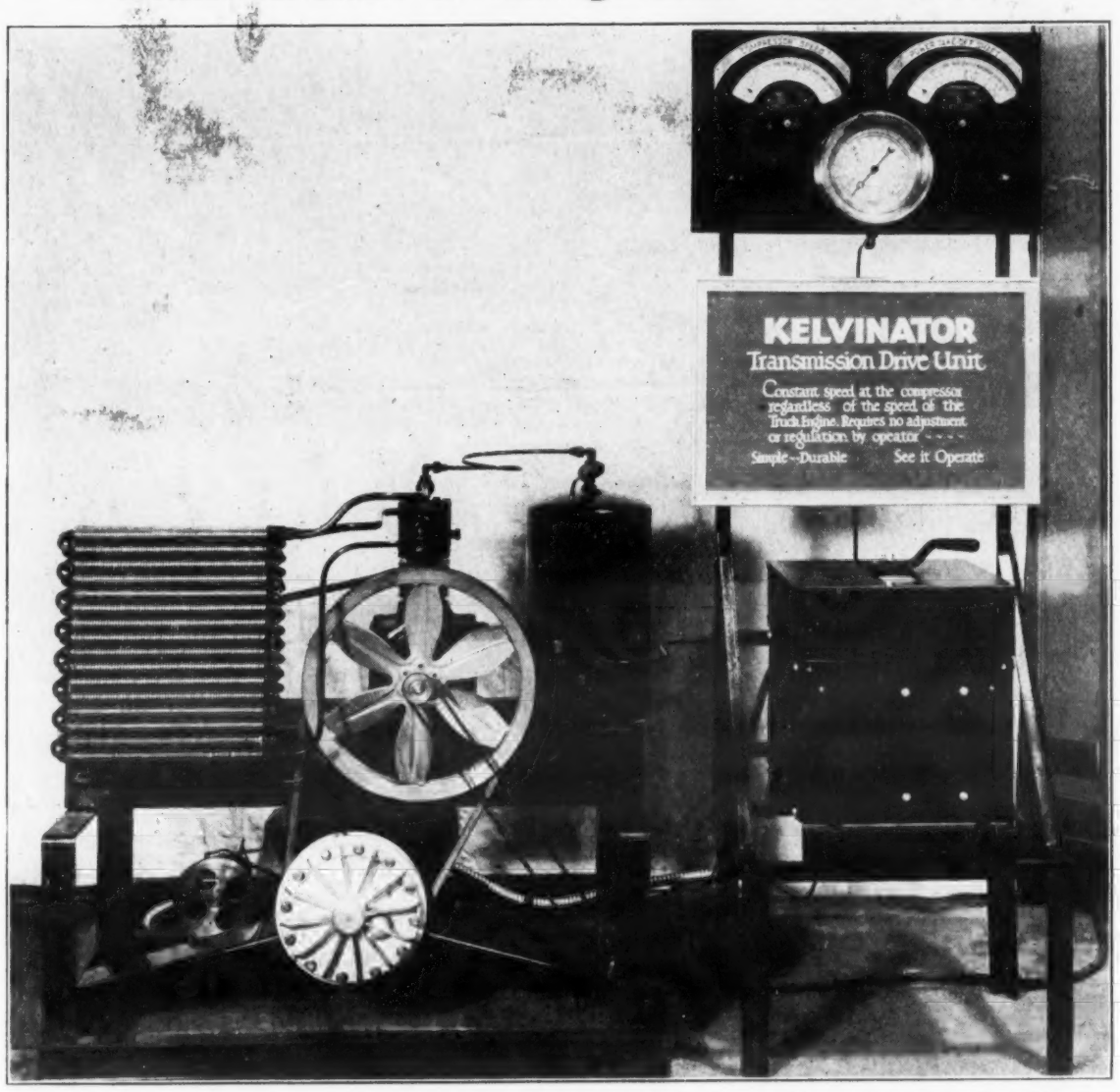
ILLINOIS UNIVERSITY PLANS CERAMIC SHORT COURSE

URBANA, Ill.—Plans are under way at the University of Illinois for the annual short course in ceramics. Exact dates and program haven't been announced as yet, except that the course will be divided into division for vitreous enamels, white ware and glazes, and structural clay products. It will be held early in 1932, and will last for two weeks, according to plans.

E. A. SMITH NAMED SUPT. OF ILLINOIS PLANT

MORRISON, Ill.—E. A. Smith, Jr., has been named superintendent of the Illinois Refrigerator Co. plant No. 2, here. Dwight Elliott, formerly in charge of the enameling department has been transferred from plant No. 2 to plant No. 1, while Ray Kelly has assumed Mr. Elliott's former duties.

Demonstration of Refrigerated Truck Drive


KELVINATOR
Transmission Drive Unit
Constant speed at the compressor regardless of the speed of the Truck Engine. Requires no adjustment or regulation by operator
Simple—Durable
See it Operate

The operation of Kelvinator's new constant speed drive for refrigerating machines in refrigerated trucks was shown with the above set-up at the Dairy Industries convention.

N.A.P.R.E. DISCUSSES OPERATION, REPAIRS

HOUSTON, Tex.—Members of the National Association of Practical Refrigerating Engineers gathered for their 22nd annual convention, here, last week to consider questions of refrigerating plant operation and refrigeration applications.

The convention opened Tuesday, Nov. 10, and lasted through Friday, Nov. 13. Headquarters were in the Rice hotel.

Air conditioning was discussed in talks by Fred I. McCandlish of Chicago, and T. M. Cunningham of Dallas. C. T. Baker of Atlanta, told all about the quick-freezing of fruits in the South.

Other speakers and their subjects were: W. H. Taylor, Milwaukee, on "Pak-Ice and its Application;" George Reichl, Chicago, on "Ice Cream Manufacture;" H. B. Howe, Chicago, on "Multiple Effect Compressors and their Application;" H. L. Lincoln, San Francisco, on "Corrosion in Brine Tanks."

R. W. O'Neill, San Antonio, on "The Automatic Ice Plant;" Elmo McGee, Houston, on "Your Job and Ours;" Fred W. Johnson, Jackson, Miss., on "Plant Housekeeping and its Relation to Plant Efficiency;" and John W. Neff, LaGrange, Ill., on "Emergency Repairs."

NEW COMPANY ORGANIZED TO MAKE PLASKON

TOLEDO—A new company, Toledo Synthetic Products, Inc., has been organized for the manufacture of Plaskon, the new synthetic material developed in the Mellon Institute of Industrial Research, Pittsburgh, under a fellowship founded by the Toledo Scale Co. The manufacturer does not make commercial objects from Plaskon, but furnishes it only from custom and industrial molders, according to the announcement.

PROPOSED SEATTLE CODE BEFORE COUNCIL TODAY

SEATTLE, Wash.—The public safety committee of the City Council will hear today the request of local refrigeration dealers for a new refrigeration ordinance. Until now the requested bill has been in the hands of the corporation counsel.

Erbach Appointed Chief Engineer For Lipman

ROCKFORD, Ill.—Fred R. Erbach has been appointed chief engineer of the General Refrigeration Corp., manufacturer of Lipman automatic refrigerating machines, according to James R. Morash, president.

Mr. Erbach was previously a member of the Lipman engineering staff until the spring of 1926, since which time he has been connected with the Kelvinator engineering organization in Detroit.

Mr. Erbach graduated from the School of Engineering, University of Wisconsin, in 1922, and has since had nine years of experience in the refrigeration field, both in machine design and application.

The General Refrigeration Corp. has also engaged R. H. Swart, formerly with the Kelvinator Corp. He has been placed in charge of all laboratory and development work under the direction of Mr. Erbach.

GEO. BRIGHT LAB INSTALLS LOW-TEMPERATURE ROOM

DETROIT—A new low-temperature control room, in which temperatures as low as -40° F. may be maintained, has just been added to the laboratory facilities of the George B. Bright Co.

According to R. C. Doremus, chief engineer, the room provides for testing of display and storage cases for quick-frozen foods, evaporators, lubricating oils, automotive equipment and other apparatus.

The dimensions of the low-temperature room are 9 ft. by 13 ft. by 9 ft. The floor is insulated with 8 in. of corkboard, while the insulation of

(Concluded on Page 2, Column 4)

A. L. MATTHES NOW DIRECTING WESTINGHOUSE ENAMELING

MANSFIELD, Ohio—A. L. Matthes, formerly in charge of enameling for the Westinghouse Electric & Mfg. Co., here, has been placed in charge of the cost reduction department. C. E. Shiplet is now in charge of the enameling plant.

WESTERN RADIO FIRM BUILDS REFRIGERATOR

LOS ANGELES—Coupled with a two-year guarantee, the new Gilfillan electric refrigerator has made its appearance on the Pacific Coast through dealer outlets of Gilfillan Bros., manufacturers of the Gilfillan radio and now the refrigerator.

O. A. Brandel, formerly chief engineer of Norge Corp., Detroit, has been named chief engineer of the refrigeration division of the Gilfillan organization.

Model 5595, as it is termed, has a food storage capacity of 5.5 cu. ft., and is finished in white enamel exterior and porcelain interior. The cabinet is of welded steel construction, made by the Albatross Steel Products Corp. of this city.

Exterior measurements are 57¼ in. high, 26⅝ in. wide, and 20½ in. deep. The shelf area is 9.5 sq. ft.

The compressor, manufactured in the Gilfillan plant on Venice Blvd., is of the reciprocating type with two horizontally opposed pistons, and involves three moving parts running in oil, according to Mr. Brandel. The oil is precooled as it passes through a coil in front of the fan.

The compressor is equipped with ball bearings, running at a speed of about 600 r.p.m. The drive shaft is counterbalanced to reduce vibration. Mr.

(Concluded on Page 2, Column 2)

NEW FLOODED EVAPORATORS OFFERED BY ICELESS

PHILADELPHIA—A new line of flooded evaporators for ice cream cabinets has been developed by the Iceless Refrigeration Accessories Co., here, according to H. F. Bitterlich, manager. They are offered in 17- or 30-coil sizes, he states, and are interchangeable with Frigidaire units.

The evaporators are built of copper tubing and a brass shell. A feature of the new units is the welded connection between the coils and the boilers, according to Mr. Bitterlich. Float valves for use with the evaporators are also included in the new line of products.

CONSTANT SPEED DRIVE DESIGNED BY KELVINATOR

2 Refrigerated Trucks Demonstrate Device On Long Trip

DETROIT—Announcement by Kelvinator Corp. of the development of a constant speed transmission drive for the refrigerating equipment of refrigerated trucks marks the active entrance of that company into the field of refrigerated truck transportation.

Up until this time a considerable number of Kelvinator condensing units have been supplied for use on trucks, John Wyllie, Jr., engineer, explains, but for the most part these were adaptations of standard commercial units installed by ice cream or truck manufacturers themselves, in which Kelvinator engineering assisted only in the selection of the refrigeration.

Two trucks equipped with the new constant speed feature were driven with the refrigerating system in operation, to Atlantic City, N. J., for exhibition there during the Dairy Exposition last month.

"During the show a neighboring exhibitor stored a quantity of ice cream bars in one of the Kelvinator trucks, when the truck got back to Detroit the ice cream was still in good condition," Mr. Wyllie says.

One truck was mounted on a Ford chassis and was driven to Atlantic City by F. O. Graham and H. Harke of the Kelvinator organization. The other, mounted on a Dodge chassis, was piloted by P. D. Parker and R. M. Lambert, also Kelvinator engineers.

Although both of these insulated bodies were built in the Kelvinator shops, Kelvinator does not contemplate building bodies for commercial use, Mr. Wyllie states.

"The new truck refrigerating equipment is being offered to ice cream manufacturers and body builders by the ice cream cabinet division of the company, according to E. R. Kelley, in charge of that division. Condensing units for use in connection with gasoline engines will also be marketed for refrigerated trucks from this division.

The constant speed drive is the invention of Mr. Graham and Fred Heideman of the engineering department. Complete details of its inner workings have not been announced as yet.

The drive is a small device, as shown in the adjoining illustration, consisting of a bearing, shaft, and a rotating drum inside of which the speed reduction takes place. It is designed for mounting on the truck transmission, power being taken through the power take-off plate usually provided on motor trucks.

Rotation of the transmission gear is transferred through the bearing by the

(Concluded on Page 2, Column 2)

FILTRINE CO. ANNOUNCES WATER COOLER FOR NAVY

BROOKLYN—Filtrine Mfg. Co., here, announces the development of two self-contained water coolers for Navy work, especially intended for installation on U. S. cruisers and battleships.

The new coolers are made in 5-gal. and 2-gal. storage capacities, according to C. F. Hansel. The new coolers employ a tinned copper storage tank with the expansion coil applied so the refrigerant cannot contact the drinking water, he claims. Dry expansion is used.

Each cabinet is equipped with a side stream sanitary bubbler, and a bottle filling faucet for filling thermos caraffes. Cabinets are finished in white or green Duco.

FRIGIDAIRE PUTS WHEELS ON NEW WATER COOLER

DAYTON—The latest addition to Frigidaire's line of electric water coolers is a portable cooler for use in hotel meeting rooms, convention auditoriums, board of directors' chambers and other places where cooled water is needed only on special occasions. The new unit is equipped with rubber tired wheels according to C. E. Quigley, who is in charge of the water cooling department of Frigidaire. The cooler is a plug-in job and can be used wherever there is a convenient outlet.

WESTERN RADIO FIRM BUILDS REFRIGERATOR

(*Concluded from Page 1, Column 4*)

Brandel reports that the condensing unit has an ice melting capacity of 100 lbs. per day, according to the A.S.R.E. rating. The machine is installed in the bottom of the cabinet.

The cabinet is insulated with 2½ in. of Celotex, sealed in hydrolene. The unit is powered by a 1/6 hp. General Electric capacitor type motor, and controlled by an eight-point temperature regulator mounted on the front of the evaporator along with a defrosting switch.

Flooded evaporation is employed in finned coils. A total of 54 ice cubes, in three trays, can be made.

The new design is featured by cartridge type suction and discharge valves which may be inserted from the outside of the compressor into the head on each end, permitting removal and reinstallation of valves without dismantling the compressor, Mr. Brandel points out.

Two additional refrigerators will be marketed early in 1932, according to the manufacturers; a smaller one and a larger size.

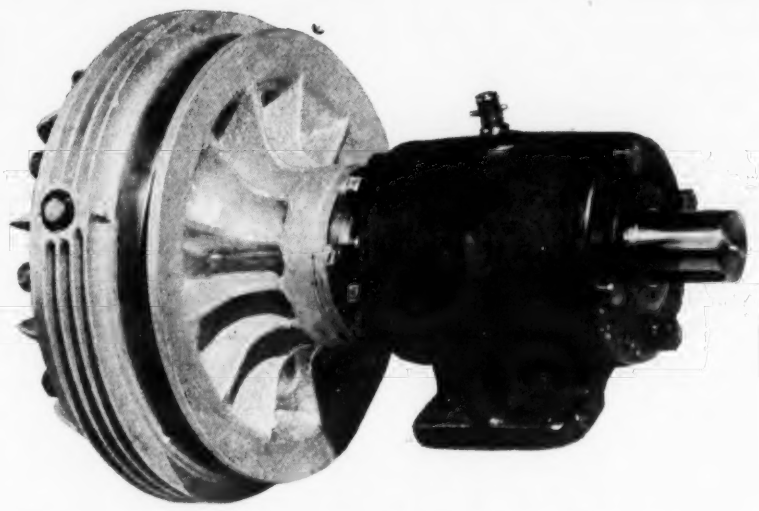
NEW BUSINESS MODELS ARE EXHIBITED AT SHOW

CHICAGO—Two refrigerator dealers in Chicago entered their office type of models in the National Business Show, held the week of Nov. 9, at the Stevens Hotel.

Three water coolers and a verti-flow room cooler were exhibited by the Stover Co., Frigidaire distributor.

Frank H. Johnson-Son-Crowen, Inc., distributor for Westinghouse, showed the Porto-Kit, portable refrigerator for office and small apartment use, the W-T 501 water cooler, and two kitchen models.

Constant Speed Drive Devised for Refrigerated Trucks



Close-up of Kelvinator's new compressor drive for refrigerated trucks.

* * *

KELVINATOR MEN DEVELOP TRUCK POWER TAKE-OFF

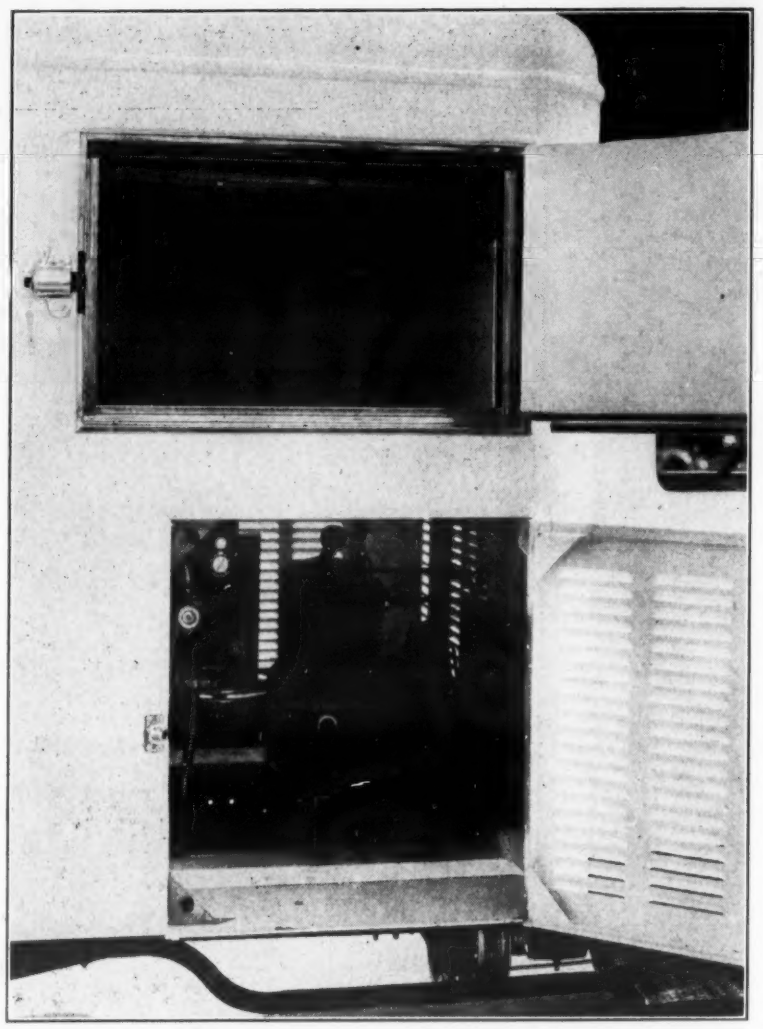
(*Concluded from Page 1, Column 5*)

shaft to the reducing drum which holds a speed near 400 r.p.m. at all higher engine speeds. At very slow speeds the pulley on the drum may revolve at less than a speed of 400, but never more, Kelvinator engineers claim. A V-belt transmits the power to the compressor in the condensing unit chamber above.

"When the truck is on the road, the compressor may be driven continuously, but except for short hauls, this will result in needlessly low temperatures," Mr. Wyllie says. Hence, a dash light indicator is provided which operates from the thermostat, and tells the driver when refrigeration is required.

A small shift lever projecting through the floorboard of the truck provides for engaging and disengaging the driving mechanism, so that compressor operation may be stopped when the driver sees that refrigeration isn't needed.

To provide refrigeration when the truck is in the garage, an electric motor drive is furnished, along with a flexible cable for connection to an electric power outlet. When running by the electric motor, the system is entirely automatic, starting and stopping as required to maintain the correct body temperature, Mr. Wyllie explains.



Side view of truck showing front door to cold compartment and the compressor chamber. The compressor is belted to the new drive, visible below.

GEO. BRIGHT LAB INSTALLS LOW-TEMPERATURE ROOM

(*Concluded from Page 1, Column 3*)

the walls and ceiling consists of 16 in. of granulated cork. A double sheathing of lumber, within and without, protects the insulation. The cork was furnished and installed by L. Mundet & Sons.

A super freezer door, made by the Victor Products Corp., provides entrance to the room, after passing through an ante room. This door is 3 ft. 6 in. wide by 6 ft. 6 in. high.

The cooling equipment consists of McCord freezer type finned tubing evaporators with a high ratio of cooling surface to cubical capacity of the room. A flooded ammonia system is used, and connected to the piping installed throughout the laboratory for test purposes.

Arrangements also have been made for connecting other piping systems to SO_2 and CH_3CL compressors, so that, if desired, tests can also be made with these refrigerants. It also will be possible to try out other refrigerants in the laboratory's common piping system.

In addition to the usual complement of precision indicating instruments for measuring pressures, air movements, power and heat, the Bright laboratory has installed a second Leeds & Northrup recording thermometer equipped with nickel resistance thermometers which provide facilities for registering temperatures at 20 different points.

These are so arranged that they may be concentrated either in the new low-temperature room or in the older high-temperature room, or divided between the various sections of the laboratory in any proportions desired. A Leeds & Northrup precision potentiometer is also part of the new equipment and makes it possible to observe point temperatures with extreme accuracy, according to Mr. Doremus.

Announcing a New

AMERICAN AUTOMATIC EXPANSION VALVE

No. 672 Yoke Type

Moisture-Proof
Easy to adjust
Very sensitive

Only one moving part

The No. 672 American Automatic Expansion Valve is new to the industry. Its development has included more than three years of field and laboratory tests. This series of tests has been the most drastic that any valve has ever been subjected to, before being offered for your approval.

It has already been adopted by several manufacturers as standard equipment for 1932 models.

This valve has only one moving part which consists of an assembly of adjusting spring, bellows, yoke and needle and has an operating range of from 25-in. vacuum to 25 lbs. pressure.

The bellows is soldered to the body and is encased in a moisture-proof shell. This shell is sealed to the body of the valve and is equipped with a stuffing box through which the adjusting spring passes.

The No. 672 Yoke Type is adapted for use with either domestic or commercial refrigerating machines and available with various outlet and inlet connections.

A postal card will bring descriptive literature and prices.

DETROIT LUBRICATOR COMPANY

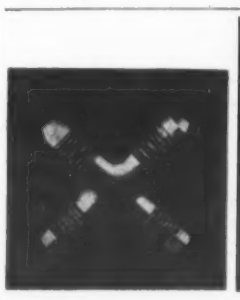
DETROIT, U.S.A.

40 W. 40th St.
New York

816 So. Michigan Ave.
Chicago

3251 Wilshire Blvd.
Los Angeles

Division of
AMERICAN RADIATOR & STANDARD SANITARY CORPORATION



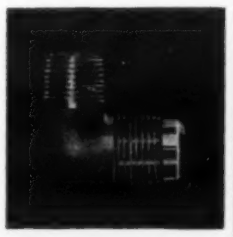
UNIFORMITY

AS like each other as two peas in a pod does not apply to Commonwealth Brass pipe and tube fittings because peas vary, even in the pod, while Commonwealth fittings are completely interchangeable.

Every fitting is uniform in regard to material, thread, seat and dimension. Each piece has passed 100 per cent inspection. All tube seats are protected in shipping by cardboard ferrules. Threads are cut to S.A.E. No. 2 standards.

Manufacturers and installers have during the past 20 years learned to rely on the absolute uniformity of Commonwealth Brass Fittings.

BUILT RIGHT—TO STAY TIGHT



Send today for your copy of our completely descriptive catalog No 36

COMMONWEALTH BRASS CORPORATION
COMMONWEALTH AT G. T. R. R.
D E T R O I T

Sirocco Conditioner Cools Air to within 3° of City Water Temperature

By John T. Schaefer

DETROIT—For the past year and a half, engineers of the American Blower Corp. have been experimenting with a Sirocco air conditioning unit installed in a two-story, seven-room frame house at 75 Rhode Island Ave., Highland Park, a Detroit suburb.

During that time, complete records of inside and outside temperatures were recorded, and humidity readings charted in the downstairs living room. Windows are kept closed in all seasons.

The house is of ordinary wood construction and represents average home conditions, F. H. Wagner, director of thermal research for the American Blower Corp., points out. It has no insulation other than afforded by the usual house walls, and no effort was made to seal crevices around windows or doors.

The original furnace was removed and the Sirocco unit installed at the same location in the basement. All flues and warm-air ducts already in the walls of the building were retained for the air conditioning plant.

The Sirocco unit is designed for use with any type of household boiler system providing hot water for heating. A refrigerating machine may be employed to produce cold water if the installation is being made in localities where the city tap water is too high to provide the necessary summer cooling effect.

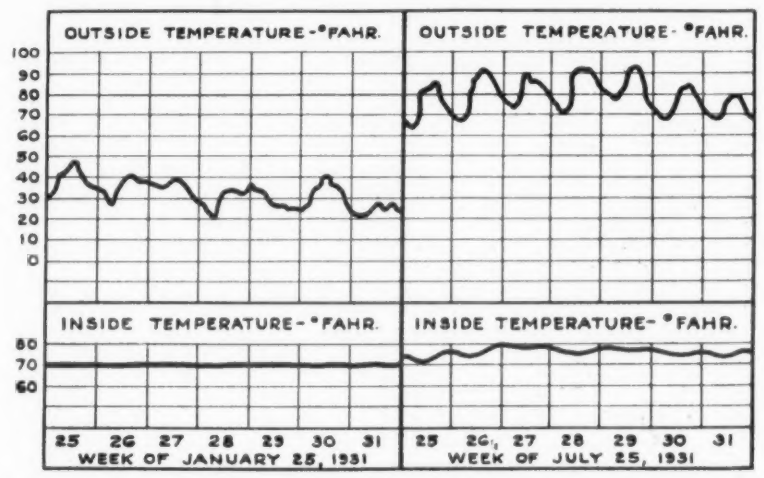


Chart showing how inside temperatures of house (lower curve) were kept constant with varying external temperatures (upper curve).

In a large proportion of American cities the muncipal water supply is cold enough to cool air with the Sirocco conditioner without refrigeration, American Blower engineers claim, because their unit will reduce air temperatures to within 3° F. of entering water temperatures when the latter are in the 70° F. range. Such a close approach of air to water temperatures is harder to get when city water temperatures are higher.

Thus, they show with their charts, in the Highland Park installation using Detroit water at temperatures that held around 77° F. most of the summer and never topped 80° F., air temperatures were kept at 80° F. or below. The charted performance of the equipment for the last week in January and the last week in July of this year is reproduced in the adjoining column.

Mr. Wagner explained that the close differential between water and air temperatures was secured by utilization of a large surface area of the cooling coil. Two banks of coils are employed, one for winter heating, and both for summer cooling. Each coil has approximately 148 ft. of 1-in. tubing with fins secured by the solder-dip method.

Approximately five gallons of city water a minute were passed through the cooling coils of the Sirocco unit used in the Highland Park home, at the same time circulating 1,700 cu. ft. of air per minute. Mr. Wagner believes that summer dehumidification is unnecessary if an air conditioning system combines, with cooling, enough air motion to give human beings a sense of comfort.

Refrigeration was added to the coldness of the Detroit water for a short experimental period last summer and a further air temperature reduction obtained. Mr. Wagner believes that the 80° F. temperature held during the past summer is a comfortable one when adequate air circulation is provided, and that for ordinary Detroit domestic applications, refrigeration will not be needed.

In many cities, however, city water isn't cold enough to produce the desired cooling effect, he indicates, and in these an electrically refrigerated water cooling system should be installed to reduce temperatures further.

"When this is done," he continued, "the water may be recirculated between the water cooler and the air conditioner, instead of using a steady supply of new water."

Air to be conditioned by the Sirocco machine may be either outside air or recirculated air, or various proportions of both, its designers point out, since provision is made for the home owner to adjust manually the air supply to the unit.

For summer use, they recommend that the user direct a large proportion of recirculated air into the house during the heat of the day; while if water rates are high in his city, he may be able to save money by using a much larger proportion of outside air during the night when outside temperatures are lower.

A centrifugal blower in the lower part of the Sirocco unit forces air up into the rooms. To prevent vibration and noise from being transmitted through the duct system into the house, the ⅓-hp. motor driving the fan is placed beside the conditioner on a separate base.

The same ducts used for the former warm-air heating system of the Highland Park home are used for the air conditioning plant. In laying out a duct system, American Blower engineers recommend that they be sized so that the air velocity through them will be less than 500 ft. per minute, thereby eliminating air noises.

The experimental installation has a duct leading conditioned air to each room; returning air enters the two return ducts from the hall and parlor of the first floor.

A feature of the Sirocco system is the combination thermostat and humidistat instrument contained in a small portable cabinet. Each room in the house is wired for control of the air conditioning apparatus so that air conditions may be controlled accurately in the particular room in which the instrument is plugged in.

The humidistat operates a solenoid valve controlling the spray of water into humidifying chamber right over the heating compartment in the conditioner.

The heating system contemplates a uniform temperature of water circulating between the water heater and the air conditioner. An "aquastat" starts and stops the oil or gas heat in the water heater, while the thermostat directs operations of the fan according to the demands of the upstairs room temperatures.

PURITAN UNITS HAVE RHINELANDER BOXES

DAYTON—Rhinelander all-steel cabinets, 3 in. of Dry-Zero insulation, Leland motors, and Mullins all-porcelain evaporators, feature the line of Puritan electric refrigerators built by Quality Products, Inc., of this city.

Compressors of the Dayton Refrigerator Corp., a division of the National Pump Corp., are used in the Puritan models.

Three sizes comprise the present line; a 5-cu. ft. model listing at $165, a 6.4-cu. ft. model listing at $195, and an 8.6-cu. ft. size selling for $235 f.o.b. Dayton. The refrigerators are marketed direct to dealers, according to H. R. Eicher, vice president in charge of sales.

Interiors are finished in white porcelain, with exteriors of Rhinelander low-temperature synthetic porcelain. Eight-point cold controls and motor switches with automatic cut-offs are provided.

WASHINGTON LUNCH ROOMS USE FILTRINE COOLERS

WASHINGTON, D. C.—Barber & Ross, Inc., local distributor of Filtrine water coolers, reports several Filtrine installations in the chain of lunch rooms operated by Goodacre's White Coffee Pot. The coolers were installed in connection with large refrigerator and display case equipment.

HOSPITAL WATER COOLED BY SERVEL FILTRINE

HARTFORD, Conn.—The Automatic Refrigerating Co., here, has just installed a No. 1 Filtrine DeLuxe, cooled by a model 20-A Servel machine, in the dining room of the St. Francis Hospital.

DESPATCH CO. DEVELOPS NEW NORMALIZING OVEN

MINNEAPOLIS—To remove internal stresses and strains in sylphon switches and other control devices, the Despatch Oven Co. of this city has designed a new type S normalizing oven.

The new oven has a capacity for 1,800 sylphon units at one time, according to H. L. Grapp, sales manager. The devices are placed on trucks and pushed into the oven, and after sufficient heat treatment are removed in the same manner.

Mr. Grapp claims that the temperature is uniform throughout the oven and is kept constant, so that the normalizing is uniform.

"Convected heat is employed exclusively in the new oven," he says. "An electric heater, externally mounted on top of the cabinet provides the heat supply, drawing about six kilowatts from the power supply."

An electric motor-driven fan forces air through the electric heater and down heat ducts into the oven. The interior duct-work is arranged for uniform heat distribution, air being circulated to all parts of the oven.

Other duct-work is inter-connected with the heater so that air in the oven is returned to the heater and recirculated. The new oven is characterized by high-speed recirculation, Mr. Grapp maintains, providing high heat transmission and a temperature uniformity of plus or minus 40° F. by automatic temperature control operating within these limits.

To prevent damage should the temperature control fail to shut off the electricity when the upper temperature is reached, a special safety cut-out thermostat protects the oven, he says.

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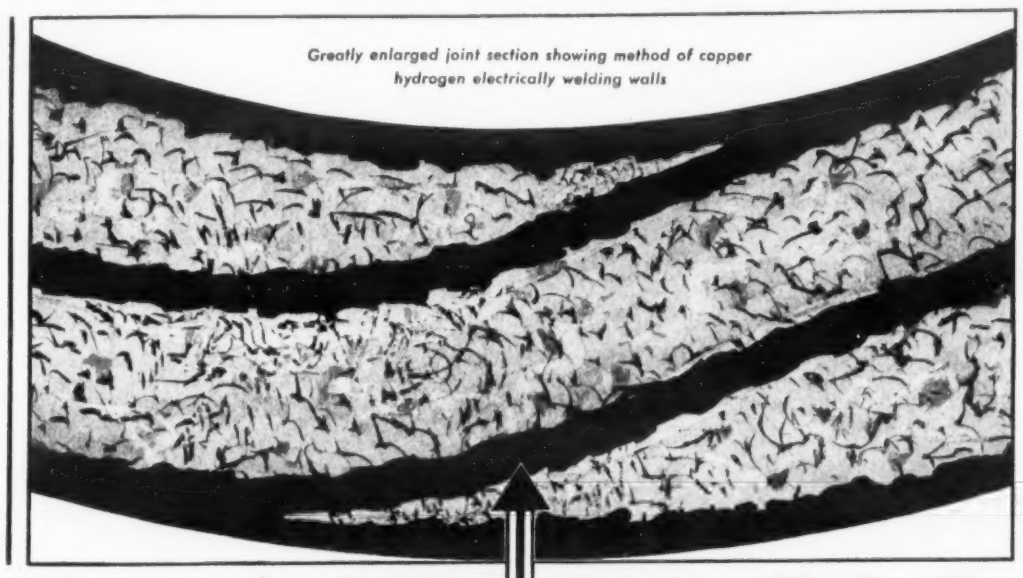

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Published Every Week by
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Also publishers of REFRIGERATED FOOD NEWS (monthly) and the REFRIGERATION DIRECTORY (annual).
550 Maccabees Building, Woodward Ave. and Putnam St.
Detroit, Michigan. Telephones: Columbia 4242-4243-4244

Subscription Rates:
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Canada: $5.00 per year (U. S. money).
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VOL. 6, NO. 11, SERIAL NO. 139, Part 2, Nov. 18, 1931

Pooling Experience

REFRIGERATING engineers who are attentive to the development of air conditioning may find cooperation with heating and ventilating technicians of considerable value in applying refrigeration to air conditioning equipment for homes. Each of these two engineering schools, working somewhat independently of the other, has designed air conditioning equipment with its own background of experience, and with its own interpretation of the requirements of the apparatus.

Heating and ventilating engineers have been "conditioning" air for human comfort for some time with their warm air heating and air circulating equipment. Many of their installations now provide for cleaning the air, and in a number of cases some provision is made for bringing relative humidities to that point regarded as most conducive to human health.

But air conditioning for human comfort is generally thought to include further treatment of the air. Carrier engineers have defined *air conditioning* as the cleaning, humidity control, distribution, and temperature control of air. Technicians in the heating and ventilating trades have become fairly familiar with the first of the three Carrier-defined operations, and naturally know a good deal about heating.

Difficult Step

Air cooling, however, is newer to them, and more akin to the knowledge of refrigerating engineers. And the successful application of this other step in fulfilling the complete function of *air conditioning* for domestic work is probably the most difficult.

Heating and ventilating engineers have studied air flow, air circulation, the design and installation of air duct systems, air inlets, dust elimination, and are familiar with the types of heat transmission and heat losses that occur in buildings.

Their official society, the American Society of Heating and Ventilating Engineers, has made a study of the physiological reactions of human beings to varying temperatures and different humidities, and has published psychrometric charts indicating what zones of relative humidity and temperature seem to be most productive of human comfort.

Central Machine

Based on their experience in heating and ventilating, a number of manufacturers have designed household air conditioning systems which consist of a centrally located machine to heat, clean, humidify, and cool air as much as is possible with city tap water. The treated air is then distributed throughout the house by duct work.

These systems appear to accomplish all the functions for which they are intended, but even with one particular type which cools the air to within three degrees of incoming tap water it is impossible to accomplish sufficient cooling in the many cities where the water supply is somewhat warm, its manufacturers admit.

In these places, the use of a refrigerating plant is recommended to reduce the cooling water temperature below that reached by city tap water.

Refrigeration is also regarded as necessary to remove any appreciable amount of summer moisture from the air, since city water temperatures are too high for effective dehumidification.

Water Temperatures

One manufacturer of these central conditioning systems recently completed a survey of city water temperatures throughout the country, and has prepared a chart showing just where water temperatures are too high for successful operation without refrigeration.

This chart indicates a substantial market for refrigerating equipment for further reduction of water temperatures for these systems. Each city in which the water temperature is high would seem to represent an opportunity for commercial refrigeration salesmen to cooperate with the conditioner supplier in furnishing condensing units.

A number of refrigeration manufacturers have approached the air conditioning market with room coolers of the cabinet type and unit coolers for wall or ceiling mounting.

In addition to air cooling, these machines are generally capable of greater dehumidification than central systems, because lower temperatures are reached with the air cooling surfaces.

Mutual Interests

Both the refrigerating and heating and ventilating engineers have a wealth of technical experience which is being aggressively applied to the growing air conditioning industry.

Their mutual interests in the development of air conditioning methods will probably draw a keen group of engineers to the joint meeting in January of the American Society of Refrigerating Engineers and the American Society of Heating and Ventilating Engineers.

Their combined efforts in cooperative development work promise progress which the American home owner already expects.

GLEANINGS
FROM RECENT PERIODICALS

Dual Refrigerant System

MOST refrigerating engineers agree that for every 200 heat units removed from the evaporator about 250 heat units must be removed from the condenser, the exact value depending on the operating conditions. This is due to the fact that the adiabatic work of compression is transmitted to the gas in the form of heat.

In the dual refrigerant system, carbon dioxide is used in a low-temperature evaporator, then the gas is compressed and finally condensed at some intermediate temperature by means of ammonia. In order to do this low-temperature refrigeration at the rate of one ton, or 200 B.t.u.'s per minute at the temperature specified, it is necessary to remove 249 B.t.u.'s from the CO_2 condenser, which is at the rate of 1,245 tons refrigeration and is done by means of ammonia.

The fact that the Bureau of Standards Bulletin No. 142 shows that it takes 42.1 B.t.u.'s adiabatic power to remove 200 heat units per minute at 5° F. when condensing at 86° F. does not alter the fact that it takes 52.45 B.t.u.'s adiabatic power to remove 249 heat units at the same temperature conditions.

Superheat Problems

At this point it is well to note that the additional work, due to superheat, also occurs in the two-stage system. If the economy benefits of two stages are to be obtained, it is necessary to remove the superheat from the discharge gas from the low pressure cylinder prior to its introduction into the high pressure cylinder. It is also economical to precool the refrigerant to the intermediate temperature. The additional gas eliberated to effect all of this cooling must be handled by the high pressure cylinder, in addition to the amount of gas it receives from the low pressure cylinder.

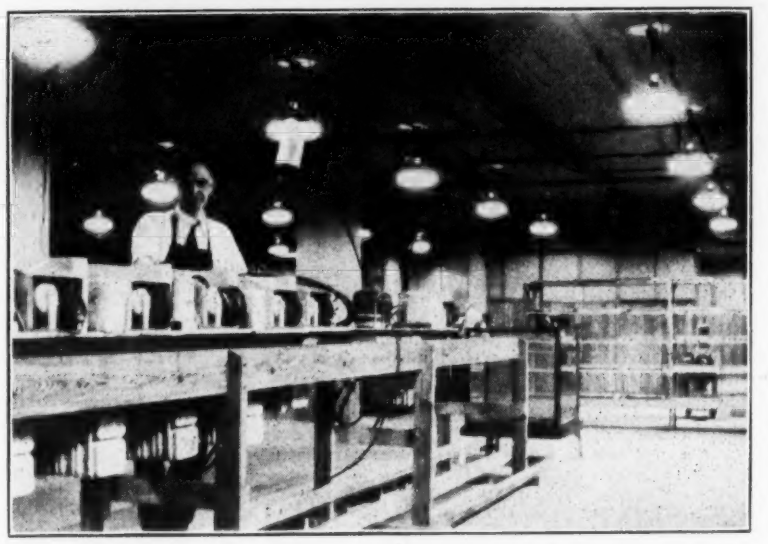
In regard to heat transfer in the combined condenser and evaporator, we know that a good heat transfer is obtained in a condenser and since there is not much difference between the heat transfer obtained with direct expansion coils or brine coils, it follows that a good rate of heat transfer should be expected in the combined condenser and evaporator, especially with a flooded ammonia system. Aside from these facts, we will assume that sufficient surface is used to maintain a 9° differential, thus eliminating any error from this source.

Precooling the Liquid

It is true that the presence of air in the condenser will cause a pressure exceeding the pressure that corresponds to the condensing temperature but there should be very little air in a system operating above atmospheric pressure. Furthermore, such a condition would obviously affect the two-stage system as well as the dual refrigerant system. The benefits to be derived from precooling the liquid by means of multiple effect compressions are well known and could also be applied to other systems.

The fact remains that the dual refrigerant system shows a substantial reduction in power consumption, regardless of the method used in making the calculations.—*Siebel Technical Review.*

Modern Repair Equipment



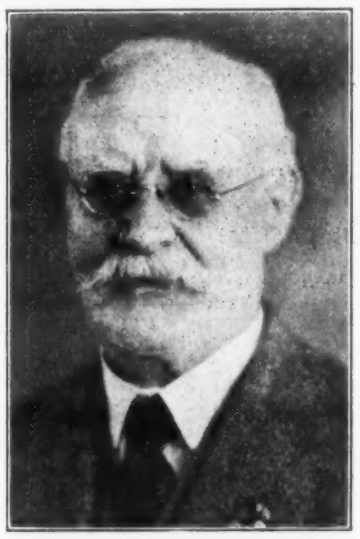
Repair bench in Majestic's new service depot at Peirce-Phelps, Philadelphia.

Floriculture is Hobby of Gibson Veteran

By John T. Schaefer

GREENVILLE, Mich.—A kindly 77-year-old English gentleman who has held almost every important position with the Gibson Refrigerator Co., and who has been engaged in building refrigerators for the past 55 years, is John Lewis, vice president and general manager of the Gibson Refrigerator Co.

Back in November, 1908, when he and Frank Gibson, Sr., started the business, there was much for each to do. Mr. Gibson took care of the financial and purchasing functions, while Mr. Lewis created refrigerator designs, directed manufacture, and organized and managed the selling of Gibson ice boxes.



John Lewis, Gibson general manager.

Although an ice refrigerator man by training, Mr. Lewis has no antagonism for the electric machine. He is pleased with Gibson's recent entrance into electric refrigeration, and has given freely of his experience in the development of the electric line. The manufacture of electric refrigerators promises to be a profitable operation, he agrees.

Like many men of ideas, Mr. Lewis has a hobby—he is intensely interested in practical floriculture. And four years ago when a local greenhouse faced serious financial difficulties, he bought it outright for himself and the daughter with whom he lives. (Mr. Lewis has 26 descendants.)

This year, under the capable management of Miss Lewis, the Greenville Floral Co. is a flourishing business, about to return a profit on the original investment. Rare flowers from many parts of the world may be seen there. And the commercial varieties are marketed to residents of Greenville and its vicinity by a smart Ford delivery truck.

Mr. Lewis was born in Cheltenham, Gloucester, in 1854, and came over to this country in 1873, settling in Philadelphia. Two years later he went to Chicago, where he soon afterward joined the R. T. Hambrook Mfg. Co. to begin his refrigeration experience.

He is a veteran engineer on cabinet construction, having secured one of the early patents on dry box air circulation methods. "Paper insulation is an old idea in refrigeration," he says, and points out that it was used in the '80s and '90s—after sawdust and charcoal had been tried, and just before the widespread use of cork.

In 1884 he transferred to the Belding Refrigerator Co., Belding, Mich., to manage production there. Later in 1908, he moved a few miles north to Greenville as co-organizer of the Gibson Refrigerator Co.

Greenville is an ideal town to live and work in, he believes. The Danish farmers who make Greenville their shopping center, are a thrifty lot, and their sons and daughters who work in the Gibson factory are energetic and loyal.

MAJESTIC INSTALLS NEW EASTERN SERVICE DEPOT

PHILADELPHIA — Grigsby-Grunow has just opened a new Eastern service depot at Fifth and Noble Sts., in this city. It is one of five Majestic service depots in the country. The depot is located in the plant occupied by Peirce-Phelps, Inc., Majestic distributor here.

The depot is equipped to handle the repair of units by modern production methods. It has a two-car railroad siding for receiving units into the plant, and a covered receiving platform that accommodates at one time three large, or four small motor trucks for units coming by express, or motor freight.

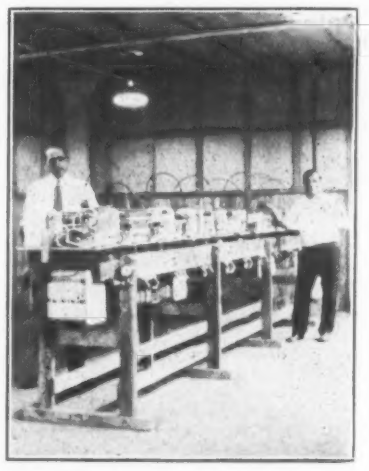
Inside the plant are an electric conveyor having a capacity of 10 units per minute, and a large elevator for bringing merchandise from the upper floors. The depot maintains only three men to do the work for the eastern territory.

One is an inspector for incoming units; the second is a repair man at the bench who does the actual repair work; and the third is an inspector on final tests, to charge the units after being repaired and chart them for performance.

After having been received from the various distributors who have sent them to the depot for repairs, the machines are taken out of their cases, inspected and tested. The incoming test room is equipped with test racks and the necessary instruments for the testing of all units received for repair. At this point, the troubles are diagnosed and the necessary repairs listed on a service order.

Units which must be discharged are placed on a discharge rack located in the incoming test room.

After the units are discharged, they are taken to the repair department and placed on the repair bench, where repairs noted on the depot service order are made. There is a stockroom containing a complete line of replacement parts. From the repair department the units are taken to the dehydrating department, and placed in Despatch electric ovens, where they are heated to a temperature of 180° F. under vacuum, for 24 hours.



Discharge rack in Majestic plant.

Following dehydration, they enter the charging room, where they are placed on a work bench and charged with SO_2 and oil and placed on an actual running test for two hours. This test is equivalent to the unit operating in a home, Majestic engineers claim, and a temperature chart made and placed on file.

Finally, the units are given a complete paint job and placed in shipping crates.

F. J. Corneil, field engineer for Grigsby-Grunow Co., is now making his headquarters at the service depot, where he will handle matters pertaining to service with the Majestic distributors served by this station. C. J. Koster, who for several years was connected with the Iroquois Electric Refrigeration Co., has been appointed depot service manager. Mr. Corneil and Mr. Koster built up all the depot shop and equipment, and designed and laid out the racks and testing equipment.

SERVICE HINTS

By FRANK W. GRAY

"Believe it or not" an electric refrigeration user has been found who *likes* the smell of sulphur dioxide. A Los Angeles service man reports that when servicing a domestic refrigerator, he carelessly allowed a part of the charge of the sulphur dioxide compressor to escape into the kitchen of a home. The lady of the house came into the kitchen, sniffed hungrily at the acrid fumes, and remarked that the odor made her homesick for her old home in Utah, near the great copper smelters.

Another service man on the Pacific Coast reports a similarly humorous incident which occurred a short time ago. He too allowed a portion of a sulphur dioxide charge to escape into a private residence. He immediately warned the lady of the house that if she had any canaries in that part of the house that their delicate organisms would be affected by the gas. The lady replied that she had no canary, but that if the gas would kill canaries it should put an end to moths also, and requested the service man to turn loose some more of it.

Causes of Short Cycling

Short cycling in flooded systems is usually due to one of the following causes: defective flapper valves in the piston head, allowing a fluctuation of back pressure during the operation of the machine; a clogged screen in the receiver or liquid line, allowing insufficient refrigerant to be pumped through to the coils; faulty switch adjustment which causes the compressor to operate spasmodically; or insufficient operating load on the compressor.

It often becomes necessary for service men to take out old equipment and replace it with new. When such a conversion becomes necessary, it is usually advisable to tear out the old copper tubing, rather than to take a chance of connecting it up with the new compressor and coil equipment.

The service man, in many cases, cannot know how long the old tubing has been in use, and under what operating conditions. He cannot be sure how much scale and other foreign matters may be present in the tubing of an old job. Often such tubing is impregnated with moisture and acid. Wherever practicable it is advisable to install new tubing with new equipment.

Cooperation with Independents

Independent service companies rendering expert and conscientious service should receive the support of electric refrigeration sales agencies. Many refrigeration dealers may find it more economical to shift part of the burden of their service department overhead to such companies organized to handle it, and to rely upon them for assistance when peak load periods of installation activity overburden the service department.

In many cases it is the fault of the operating methods of such independent service companies that they do not receive more support from refrigeration dealers. If the service company competes with the dealer on the sale of new equipment, the dealer naturally hesitates to contract to such a company any installation or service work, thereby giving them information as to customers which they may exploit to their own advantage.

And if the independent service company over-charges or renders inferior service to the dealer's customers, it of course plays havoc with the dealer's resale business and customer relations.

One of the favorite ruses to get business of some independent service companies is to inform refrigeration users that they need complete overhaul jobs, costing $50 or more when rebuilding is unnecessary.

Usually repairs can be made on the job without taking the compressor to the bench for a complete overhaul. Refrigeration dealers should determine the operating policies of independent service companies whom they patronize, and for the good of the industry should take a concerted stand against service companies who are exploiting the service business by taking advantage of the technical ignorance of refrigeration users.

Service Men's Forum

To encourage the exchange of practical ideas in the service and installation of electric refrigerators, this department is conducted as an open forum for service and installation men. You are invited to contribute. A single idea may help another service man out of a serious difficulty.. Address the Engineering Editor, Electric Refrigeration News, 550 Maccabees Bldg., Detroit, Mich. Two dollars, or the price of a year's subscription, will be awarded for each idea used.

QUICK repair service on fractional horsepower repulsion induction motors common on electric refrigerators often presents a problem when commutators are found to be pitted, brushes wearing rapidly, or a high mica condition occurring.

It is customary to bring the rotor of such a motor into the shop to be turned and properly re-faced, but sometimes it is necessary to keep the refrigerator running when there are no shop facilities for miles.

A good screw-driver of about 8-in. length can be modified to serve as a lathe tool by filing *on one side* a cutting edge similar to that of a lathe tool. The semi-hard steel of the screw-driver can be filed with comparative ease, or even ground to offer the proper edge. Too acute an edge will cause the tool to dig into a commutator too deep.

The motor being repaired is turned under its own power, and light cuts taken off the commutator face until a fair finish is obtained. Great care and a steady hand are required to avoid damaging the face by allowing the tool to bite in too deep.

The tool is held at right angles to the shaft, and is pushed in through the end bell openings. The tool then operates much as a wood turning tool, and good results can readily be obtained. A finish should then be applied by using sandpaper or speed grits in the usual fashion.

W. R. BROWN,
Service Department,
Suburban Electric Development Co.,
5624 Penn Ave., Pittsburgh, Pa.

WESTINGHOUSE OPENS SERVICE CONVENTION

(Concluded from Page 1, Column 1)

J. D. Bridges, Philadelphia, chairman, handling inoperative materials; and M. Singer, Philadelphia, chairman, warehouse and stocks.

These committees will report their recommendations during the week.

Dan Frain, service manager of Southwestern division, is chairman of tomorrow's meeting which opens with a report of the committee on deliveries and installations.

J. A. Vassar, assistant service manager, is next with practical demonstrations of the installation of the new Westinghouse ¼-hp. unit. To close the morning's program he will explain the electrical circuit.

The afternoon meeting includes a discussion of field adjustments by Mr. Baxter, control adjustments on all models by Mr. Vassar, and expansion valve adjustments by R. B. Lewis, service manager, Southeastern division.

A report of the committee on dealer training will open the Wednesday morning session with Mr. Baxter in the chair.

J. F. Hendrickson, service manager Northeastern division, will speak on dealer training, and Milton Kalischer of the Westinghouse engineering department will talk on the unit.

Factory inspection is the topic for Wednesday afternoon with C. W. Mihle, chief inspector of the East Springfield plant, telling how it is done.

The committee on the unit will report the first thing Thursday morning with H. E. Meyers, service manager, Middle-Atlantic division in the chair. The cabinet will then be treated by G. F. Forsthoefel, cabinet engineer from East Springfield.

The afternoon conference includes a report of the committee on warehousing and stock, and a talk on commercial refrigeration by R. C. Cosgrove, commercial manager, refrigeration division.

The installation and service of water coolers will then be explained by Mr. Vassar.

Thursday night all the service men will congregate for a banquet in the Mansfield Leland Hotel. John T. Schaefer, engineering editor of ELECTRIC REFRIGERATION NEWS, will be the speaker.

R. H. Gordon, service manager of the Northwestern division, leads the Friday morning meeting, which consists of a report of the cabinet committee, general discussion, and appointment of committees for the 1932 conference.

The final session Friday afternoon will be devoted to a written analysis of installation and adjustments by all distributors' men under the supervision of Mr. Baxter.

Another service conference will be held shortly for service managers west of Denver, Westinghouse officials announce.

COPELAND PLACED IN FIRST ARC WELDED STEEL HOUSE

CLEVELAND—R. H. Schwartz of Shaker Heights, Ohio, who purchased the first arc welded steel house, has just installed a Copeland Cold Chef model E-901 in this home, according to O. J. Hinger, manager of the refrigeration department of the Frankelite Co., Copeland distributor for northeastern Ohio.

The residence is a two-story structure of French architecture.

The entire arc welded steel framework was erected in two and one-half working days. All fabrication and erection welding was done on the site by the McKay Building Co., Cleveland, which had the general contract.

George Howard Burrows, the architect, states that the house cost approximately 40 cents per cu. ft., and that the use of welded steel construction cost only about $72 more than the traditional type of wood structure.

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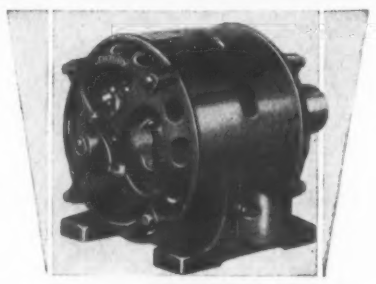
THEY KEEP A-RUNNING



1 Horse Power Century Type RS Repulsion Start Induction Single Phase Motor

Continuous Operation

Proper and continuous lubrication is only one of many vital features that makes Century Type RS Single Phase Motors "Keep a-Running." One Year's continuous operation, without re-oiling, is assured by the Century Wool Yarn System of Lubrication—which, together with Phosphor Bronze Sleeve Bearings, is standard equipment on all 1½ horse power and smaller sizes . . . All 2 horse power and larger sizes are regularly furnished with oil ring lubricated phosphor bronze bearings. Grease lubricated ball bearing motors are available in most sizes.

Built in all standard sizes from ⅙ to 40 horse power.

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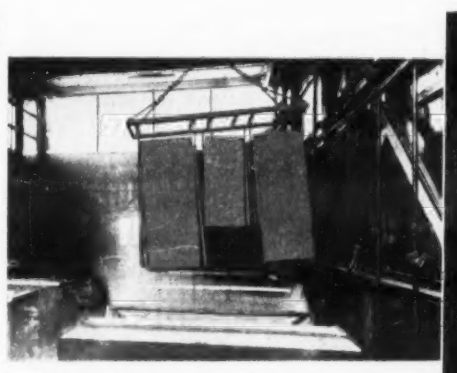
SINGLE PHASE, THREE PHASE AND DIRECT CURRENT MOTORS - MOTOR GENERATOR SETS - ROTARY CONVERTERS - FANS AND VENTILATORS

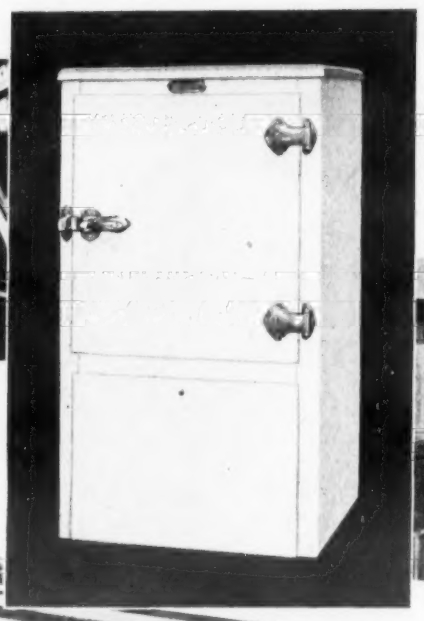
FOR MORE THAN 27 YEARS AT ST. LOUIS

BONDERIZING . . . numbered among Copeland's sales producing features

• Rust protection for enameled cabinets

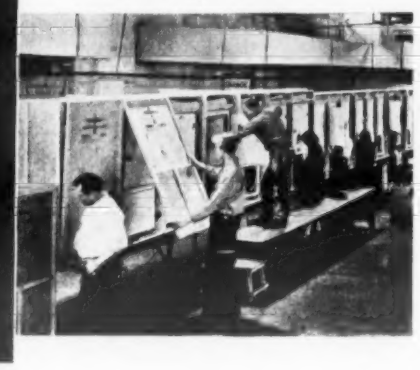


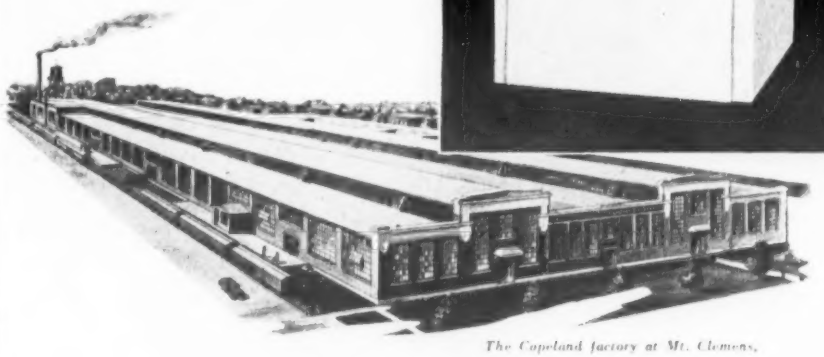
A Bonderizing installation, showing panels about to be lowered into tanks of Bonderite rust-proofing solution.



CENTER: One of the most popular units of the Copeland domestic line.

BELOW: Cabinets passing along inspection line before the refrigerating unit is installed.





The Copeland factory at Mt. Clemens, Michigan.

A GLEAMING white enamel-finished Copeland is delivered to its buyer — a housewife.

It has a Bonderized cabinet!

The housewife is going to appreciate that fact *increasingly* as time goes on. It means the enamel will not chip or peel. It means that rust will not set in to attack the metal and cause unsightly yellow stains. It means her Copeland will always be as handsome as on the day it was delivered.

Bonderizing is the chemical process that "holds paint to steel." It is used wherever permanence and resistance to corrosion are demanded of a painted, enameled or lacquered product. On automobile fenders, metal furniture, etc. . . . and on refrigerators.

Besides having the sales value of consumer appreciation, Bonderizing technically represents an advanced method of metal finishing that is welcomed by production officials.

The process is simple and safe, consisting principally of a ten-minute immersion in a tank of Bonderite solution (Bonderite powder and boiling water). No skilled labor is required. Adaptable to any volume of plant production.

Interested manufacturers are invited to send for the descriptive booklet—"Bonderite." If particular metal finishing requirements are stated, comprehensive attention will be given to specific preliminary recommendations.

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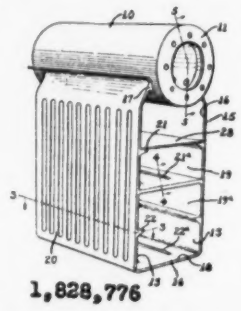
Write or wire where we can serve you.
VIRGINIA SMELTING COMPANY
West Norfolk, Va.
131 State St., Boston 75 West St., New York

Review of Latest Patents Issued in

ISSUED OCTOBER 27

1,828,776. REFRIGERATING APPARATUS. Jesse G. King, Dayton, Ohio, assignor, by mesne assignments, to Frigidaire Corporation, a Corporation of Delaware. Filed Oct. 31, 1927. Serial No. 229,910. 6 Claims. (Cl. 62—126.)



1,828,776

1. A fabricated sheet metal evaporator for refrigerating apparatus comprising a container forming a reservoir for liquid refrigerant and one or more hollow walls connected to the container for circulating the refrigerant, a hollow shelf interconnecting said walls for supporting an ice making receptacle within the enclosure formed by said walls and shelf, said shelf being in communication at its opposite ends with the hollow walls for circulating refrigerant in thermal contact with the receptacle, said container having an opening and being adapted to cooperate with a removable closure for closing said opening, and said evaporator being constructed of sheet metal of substantially uniform thickness to permit uniform heating of the entire evaporator to an enameling temperature.

1,828,811. COUPLER FOR ICE MANUFACTURING APPARATUS. George Lange, New York, N. Y., assignor to Knickerbocker Stamping Co., Parkersburg, W. Va. Filed July 12, 1930. Serial No. 467,559. 3 Claims. (Cl. 62—159.)

1,828,877. REFRIGERATING SYSTEM. Elmer Scott, Dayton, Ky. Filed Sept. 23, 1929. Serial No. 394,462. 2 Claims. (Cl. 261—116.)

1. In a refrigerating system for a meat storage room having means for suspending meat medially of the room, air cooling means having an intake at its bottom, located at the side of the room, said cooling means having air current inducing means for projecting cooling air currents outwardly from the tops of said inducing means toward the top portions of the suspended meat so that it will waft in large volume down around the meat and be drawn in at the bottom of said inducing means.

1,828,970. WATER COOLER. George J. Huntley, Baltimore, Md., assignor to Crown Cork & Seal Co., New York, N. Y., a Corporation of New York. Filed April 19, 1929. Serial No. 356,364. 14 Claims. (Cl. 62—141.)

1. A water cooler embodying therein a heat insulated casing, having a storage compartment toward the bottom thereof, a refrigerating coil above said compartment, a feed water source communicating with said casing above said coil, means distributing water from said feed water source and delivering it in small volume upon said coil, refrigerating means within said storage compartment, means supplying a refrigerating medium to said refrigerating coil and said refrigerating means, and an offtake adjacent the bottom of said compartment.

1,828,996. ICE CABINET. Philip H. Christopher, Fairmont, W. Va. Filed July 6, 1929. Serial No. 376,469. 1 Claim. (Cl. 62—83.)

1,829,096. REFRIGERATING SYSTEM. Gustav A. Kramer, Concord, Calif., assignor to Shell Development Co., San Francisco, Calif., a Corporation of Delaware. Filed Sept. 26, 1928. Serial No. 308,402. 5 Claims. (Cl. 62—115.)

2. In a refrigerating system in which a fluid is alternately evaporated and condensed in a heat transmission cycle the steps of heating respectively the condensate leaving the condenser and the vapors leaving the evaporator by heat exchange respectively with the incoming vapors and liquid, and subjecting said condensate to pressure to prevent its ebullition due to said heating.

1,829,341. AIR CONDITIONING DEVICE. William C. Denison, Cleveland Heights, Ohio. Filed Jan. 11, 1930. Serial No. 420,242. 4 Claims. (Cl. 261—103.)

1. An air conditioning appliance including an air conduit, an air chamber and an air filter in said chamber through which all air conditioned by the device must flow, said filter being of considerable area whereby air will be delivered therethrough, at a low velocity, and said appliance including a humidifying fabric in close juxtaposition to said filter and means for causing air to pass through said filter and then adjacent said humidifying fabric, the area of said humidifying fabric being of the same order of magnitude as that of said filter.

1,829,370. REFRIGERATING APPARATUS. Hans Rohl, Mannheim, Germany, assignor to Schwarzwaldwerke Lanz, G. m. b. H., Mannheim, Germany. Filed June 16, 1928, Serial No. 285,830, and in Germany Dec. 24, 1927. 6 Claims. (Cl. 62—118.)

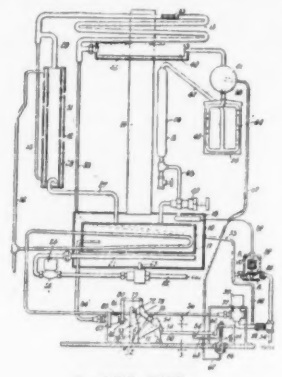
1. In refrigerating apparatus of the type described, an absorption-expulsion vessel comprising a casing interiorly sub-divided by perforated metallic partitions into a plurality of longitudinal chambers, each of relatively small sectional area, which are separated from each other only by the partitions and are alternately charged with absorption materials and left open for the passage of the refrigerating medium.

1,829,375. COOLING TANK FOR DOMESTIC REFRIGERATOR SYSTEMS. Franklin G. Slagel, Buffalo, N. Y., assignor, by mesne assignments, to Frigidaire Corp., a Corporation of Delaware. Filed Oct. 1, 1925. Serial No. 59,764. 1 Claim. (Cl. 62—95.)

A refrigerant evaporator adapted to be placed in a domestic refrigerator comprising an integral casting having an ice-making chamber therein, a liquid receiving chamber above said ice-making chamber, the walls above said ice-making chamber being hollow and forming a jacket, integral partitions dividing said jacket into a plurality of ducts communicating with said liquid receiving chamber, and ribs integral with an external to said jacket and adjacent and parallel to said ducts.

1,829,377. REFRIGERATING APPARATUS. Archie Hugh Strong, Flushing, N. Y., assignor to Master Domestic Refrigerating Co., Inc., a Corporation of New York. Filed March 20, 1928. Serial No. 263,113. 5 Claims. (Cl. 62—118.)

1. In a refrigerating apparatus, a generator for a refrigerant, periodically operated means for heating the contents of the generator, a condenser for condensing the evaporated refrigerant, an evaporator, a separator located intermediate of and communicating with the generator and the evaporator for freeing the evaporated refrigerant of water vapor prior to the entrance of the refrigerant into the condenser, and a water trap connected with the evaporator for trapping during a given generating period such water as may have remained in the evaporator upon completion of the last preceding evaporating period, the means connecting said



1,829,377

water trap with the evaporator continually affording unrestricted communication, and thus continually permitting any ammonia in said trap to be vaporized and returned to the evaporator; a conduit extending from said trap to the generator; and a valve in said conduit below said trap; whereby communication of said trap with said generator is normally prevented, but may be established, at the will of the operator, to drain the trapped water into the generator.

1,829,386. REFRIGERATING APPARATUS. James C. Arnold, Los Angeles, Calif., assignor, by mesne assignments, to Frigidaire Corp., a Corporation of Delaware. Filed Nov. 30, 1927. Serial No. 236,731. 4 Claims. (Cl. 62—95.)

3. A refrigerator having a header and a refrigerant loop, and a fin fitting over said loop, said fin having a cavity for the reception of said loop.

1,829,387. REFRIGERATING APPARATUS. James C. Arnold, Los Angeles, Calif., assignor, by mesne assignments, to Frigidaire Corp., a Corporation of Delaware. Filed Nov. 30, 1927. Serial No. 236,732. 4 Claims. (Cl. 62—95.)

1. A refrigerating element comprising a header, a looped duct, a vertical cooling fin, means for detachably connecting said looped duct to said header, and means for detachably connecting said fin to said duct.

1,829,384. REFRIGERATING APPARATUS. Frank W. Andrews, Fort Wayne, Ind., assignor, by mesne assignments, to Frigidaire Corp., a Corporation of Delaware. Filed Dec. 29, 1927. Serial No. 243,439. 6 Claims. (Cl. 62—95.)

2. A refrigerating element for mechanically refrigerated cabinets comprising a relatively long and narrow chamber, means for maintaining a predetermined level of volatile liquid refrigerant in said chamber and means for preventing the formation of liquid waves within said chamber, said wave-preventing means comprising baffles adapted substantially to prevent the formation of waves and to break up such waves when formed.

1,829,399. REFRIGERATING APPARATUS. Harry B. Hull, Dayton, Ohio, assignor, by mesne assignments, to Frigidaire Corp., a Corporation of Delaware. Filed June 2, 1925. Serial No. 34,358. 15 Claims. (Cl. 62—95.)

9. A cooling unit comprising in combination, a conduit for cooling medium formed into a coil, and a heat-absorbing body including a flat surface on one side and a plurality of fins projecting from the other side, said flat surface being in contact with the convolutions of the coil to provide a relatively small thermal contact surface between the member and the conduit.

15. A cooling unit for refrigerating apparatus, comprising in combination, a refrigerant conveying coil having the loops thereof spaced from one another, a refrigerant conveying coil having the loops thereof extending within the spaces between the loops of the first group to provide an enclosure between the interlaced portions of said loops adapted to receive an ice-making receptacle and means for delivering refrigerant to said groups of loops.

1,829,402. REFRIGERATING APPARATUS. Lloyd M. Keighley, Dayton, Ohio, assignor, by mesne assignments, to Frigidaire Corp., a Corporation of Delaware. Filed Jan. 18, 1926. Serial No. 81,902. 12 Claims. (Cl. 62—8.)

1. A refrigerating system comprising in combination, a cooling unit, means for supplying a volatile liquid refrigerant to, and withdrawing gaseous refrigerant from said cooling unit, said means including an exhaust conduit, means located in said exhaust conduit for rendering said unit operative, said means being actuated by the act of moving an object to be cooled into communication with said cooling unit.

1,829,403. ELECTRICAL CONTROL SYSTEM FOR REFRIGERATION. Frederick G. Keyes, Cambridge, Mass., assignor, by mesne assignments, to Frigidaire Corp., a Corporation of Delaware. Filed Nov. 10, 1923. Serial No. 673,931. 5 Claims. (Cl. 62—5.)

1. In an electrical control system, the combination of two switches for opening and closing electrical circuits therethrough, means for moving said switches to simultaneously close a circuit through one switch and open another circuit through another switch, and liquid level controlled means for closing and opening alternately the circuit of said first named means.

1,829,404. REFRIGERATING APPARATUS. Jesse G. King, Dayton, Ohio, assignor, by mesne assignments, to Frigidaire Corp., a Corporation of Delaware. Filed Feb. 6, 1926. Serial No. 86,589. 14 Claims. (Cl. 62—95.)

1. A cooling unit for mechanical refrigerators comprising an elongated header containing a quantity of volatile liquid refrigerating medium, a plurality of duct loops depending from said header and connected thereto in parallel, said loops projecting longitudinally beyond said header, and metal fins thermally connected with said loops.

1,829,405. REFRIGERATING APPARATUS. Jesse G. King, Dayton, Ohio, assignor, by mesne assignments, to Frigidaire Corp., a Corporation of Delaware. Filed Feb. 6, 1926. Serial No. 86,591. 20 Claims. (Cl. 62—126.)

1. A cooling unit for mechanical refrigerators comprising an elongated header tank adapted to contain liquid refrigerant at a substantially constant level, a plurality of duct loops each having a plurality of legs connected to said header, one of said legs being connected to one end wall of said tank and projecting a substantial distance in the longitudinal direction of said tank.

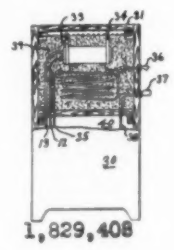
1,829,406. REFRIGERATING APPARATUS. Jesse G. King, Dayton, Ohio, assignor, by mesne assignments, to Frigidaire Corp., a Corporation of Delaware. Filed Nov. 30, 1927. Serial No. 236,719. 7 Claims. (Cl. 62—95.)

1. Refrigerating means for mechanically refrigerated cabinets comprising a brine tank having an opening in an end wall, a header disposed externally to said brine tank and attached to an end wall thereof and providing a cover for said opening, refrigerant circulating ducts within said brine tank and connected to said header.

1,829,407. REFRIGERATING APPARATUS. Jesse G. King, Dayton, Ohio, assignor, by mesne assignments, to Frigidaire Corp., a Corporation of Delaware. Filed Nov. 30, 1927. Serial No. 236,722. 9 Claims. (Cl. 62—95.)

3. Refrigerating means for mechanically refrigerated cabinets comprising an elongated header, and a plurality of duct loops connected with said header and extending logitudinally beyond opposite ends of said header.

1,829,408. REFRIGERATING APPARATUS. Jesse G. King, Dayton, Ohio, assignor to Frigidaire Corp., Dayton, Ohio, a Corporation of Delaware. Filed Jan. 30, 1928. Serial No. 250,406. 4 Claims. (Cl. 62—141.)



1,829,408

1. A liquid cooler comprising a refrigerant level maintaining header, a depending pipe system associated therewith including a plurality of pipes, one telescoping with the

(*Concluded on Page 7, Column 1*)

Everlastingly - - -

- - one solid, seamless, copper tube

not a crack, a flaw, or weak spot. Work it any way—swedge, flare, bend—it is perfect and stays that way. For refrigerants, water, air, oil—the cheapest—and best.

Dehydrated and Sealed Coils

Made to A. S. T. M. specifications (B68-30T). Plain or tin plated. Prompt shipment.

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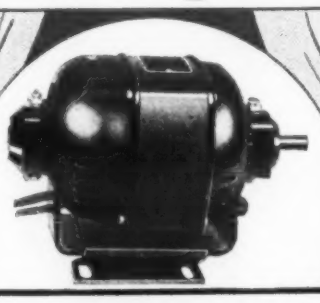
Sales offices in 26 cities. Stock available at Los Angeles, 224 E. 11th St. Write or wire for name of nearest representative.

Quiet and Dependable



The special cradle mounting that identifies Leland motors built for refrigeration is part of the explanation of their quietness. The fact that they are built to closer tolerances and more rigid inspection than is usually observed in motor manufacturing, also helps to explain this essential characteristic — quietness in operation.
Successfully used in refrigeration—worth investigating.
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BUBBLERS AND GLASS FILLERS
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CLEVELAND OHIO

Field of Mechanical Refrigeration

(Concluded from Page 6, Column 5)

other, one of said pipes being connected to said header at both ends to maintain refrigerant liquid circulating within said pipe and the other of said pipes being adapted to circulate the liquid to be cooled within said pipe, the liquid in one of said pipes being in contact with the other pipe.

1,829,410. REFRIGERATING APPARATUS. Jesse G. King, Dayton, Ohio, assignor, by mesne assignments, to Frigidaire Corp., a Corporation of Delaware. Filed Nov. 30, 1927. Serial No. 236,720. 6 Claims. (Cl. 62—95.)

4. An evaporator disposed in the path of air for directly cooling the air, said evaporator comprising a finned section forming the greater part of the length of the evaporator and the greater part of the metallic heat absorbing surface of the evaporator, said finned section including a plurality of vertically extending fins and a compact group of long slender and horizontally disposed refrigerant conveying tubes intimately connected with the fins, certain of said tubes being disposed at higher planes than others and certain being arranged to the side of others, and a cylindrical header containing a quantity of volatile liquid refrigerant, certain of said tubes being connected with an end wall of the header and certain of said tubes being connected with the cylindrical wall of the header.

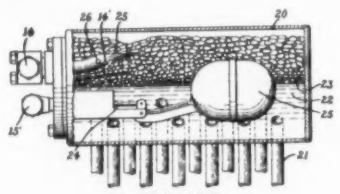
1,829,411. REFRIGERATING APPARATUS. Jesse G. King, Dayton, Ohio, assignor, by mesne assignments, to Frigidaire Corp., a Corporation of Delaware. Filed Nov. 30, 1927. Serial No. 236,721. 7 Claims. (Cl. 62—95.)

7. A horizontally elongated spike-like evaporator disposed in the path of air for directly cooling the air, comprising a finned section forming the greater part of the horizontal length of the evaporator and the greater part of the metallic heat absorbing portion of the evaporator, said finned section including a compact group of long slender and horizontally disposed refrigerant conveying tubes forming the major heat transfer section of the evaporator contacting with the refrigerant, some of said tubes being arranged on a higher plane than others, said finned section also including a plurality of vertically extending fins each of said fins being intimately connected with a lower and an upper tube, and a header containing a quantity of volatile liquid refrigerant, said upper and lower tubes being each connected with a vertically extending wall of the header in fluid exchange relationship with the interior of said header.

1,829,412. REFRIGERATING APPARATUS. Jesse G. King, Dayton, Ohio, assignor to Frigidaire Corp., Dayton, Ohio, a Corporation of Delaware. Filed May 30, 1929. Serial No. 367,165. 4 Claims. (Cl. 62—115.)

1. In combination, a platform adapted to support a refrigerant liquefying unit, a receiver spaced from said platform, a plurality of brackets attached to said platform, said brackets being slotted, an inlet means and an outlet means for the liquefied refrigerant on said receiver, said means adapted to be inserted in said slots and to thereby support said receiver in said spaced relation.

1,829,417. REFRIGERATING APPARATUS. Ralph K. Miller, Dayton, Ohio, assignor, by mesne assignments, to Frigidaire Corp., a Corporation of Delaware. Filed Nov. 30, 1927. Serial No. 236,717. 10 Claims. (Cl. 62—178.)



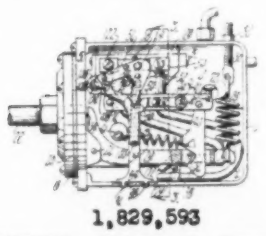
1,829,417

1. The method of operating refrigerating apparatus which consists in circulating through the apparatus a volatile refrigerant and oil capable of forming sustained bubbles in the presence of the refrigerant.

1,829,501. EVAPORATOR FOR REFRIGERATING APPARATUS. Lawrence Bruehl, Brooklyn, N. Y., assignor to Gas Refrigeration Corp., Scranton, Pa., a Corporation of Delaware. Filed Jan. 23, 1928. Serial No. 248,660. 12 Claims. (Cl. 62—95.)

1. A refrigerator having a main storage space and two compartments in the upper part thereof, one of said compartments being open at the upper and lower ends thereof for air circulation therethrough, a conduit in the lower portion of said last mentioned compartment and extending lengthwise thereof and provided with heat absorbing fins, and a refrigerant receiver in the other compartment having connection with opposite ends of said conduit.

1,829,593. COMPRESSOR CONTROL



1,829,593

STRUCTURE. Malcolm E. Henning, Des Moines, Iowa, assignor to Penn Electric Switch Co., Des Moines, Iowa, a Corporation of Iowa. Original application filed Nov. 3, 1930, Serial No. 493,011. Divided and this application filed Aug. 25, 1931. Serial No. 559,267. 6 Claims. (Cl. 230—4.)

1. In a compressor control structure, the combination of switch contacts and an unloader valve, common actuating mechanism therefor, automatically operable by pressure produced by the compressor and a combination manual and thermal control also operable to move said common actuating mechanism for simultaneously operating said switch contacts and said unloader valve.

1,829,716. REFRIGERATOR. Archie Hugh Strong, Norristown, Pa., assignor to Master Domestic Refrigerating Co., Inc., Conshohocken, Pa., a Corporation of New York. Filed June 11, 1929. Serial No. 370,116. 7 Claims. (Cl. 62—118.)

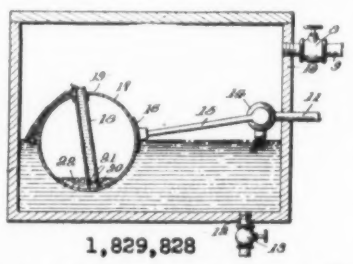
1. In a refrigerator of the absorption type; the combination with a generator, a condenser and an evaporator; of means adapted to alternately heat and cool said generator; conduit means connecting said generator with said evaporator, through said condenser; a rectifier in said conduit, between said generator and said condenser, and including two chambers, separated at their lower portions, but communicating at their upper portions; a liquid seal in the rectifier chamber next to said generator, adapted to permit the flow of refrigerant gas from that chamber to the other rectifier chamber, but to prevent back flow of the refrigerant past said seal; a conduit adapted to discharge liquid from the bottom of said other chamber, and extending from the bottom of the second rectifier chamber, into said generator, beneath the residual liquid in said generator, and having a plurality of perforations adapted to segregate in bubbles in that liquid, the refrigerant gas returned to said generator from said evaporator, through said second chamber.

ISSUED NOVEMBER 3

1,829,748. REFRIGERATING APPARATUS. George F. Hofferberth, Dayton, Ohio, assignor, by mesne assignments, to Frigidaire Corp., a Corporation of Delaware. Filed Nov. 30, 1926. Serial No. 151,801. 2 Claims. (Cl. 285—30.)

1. In refrigerating apparatus having a refrigerating compartment, a wall having an opening through it, an impervious lining of thin material in the compartment having an opening registering with the opening in the wall, said lining having a collar adjacent the opening in the wall, a conduit for refrigerating medium extending through the openings, and means for sealing the openings comprising a plug of resilient material, the plug being provided with a groove adapted to receive the collar.

1,829,828. VALVE FLOAT FOR REFRIGERATING SYSTEMS. Norman H. Gay, Los Angeles, Calif. Filed Feb. 27, 1930. Serial No. 431,850. 2 Claims. (Cl. 137—104.)



1,829,828

1. In a float valve structure for a refrigerating plant having a closed receiver with a varying liquid level therein whereby changes of gas pressure occur as well as changes of liquid level, the combination of a valve and a float to control the said valve, said float comprising a hollow member having a downwardly projecting tubular conduit therein extending from the upper side to the opposite inner surface of the float against which it bears, said conduit having an opening to the interior of the member closely adjacent its bottom end and open at its upper end into said receiver, said conduit being fixedly secured in position in the float, thereby providing a stiffening strut within the float.

1,829,865. REFRIGERATING PLANT. Geo. M. Kleucker, St. Louis, Mo. Filed Dec. 8, 1928. Serial No. 324,600. 1 Claim. (Cl. 62—126.)

1,829,944. THERMOSTATIC SWITCH. Estel C. Raney, Columbus, Ohio. Filed April 1, 1926. Serial No. 99,010. 1 Claim. (Cl. 200—139.)

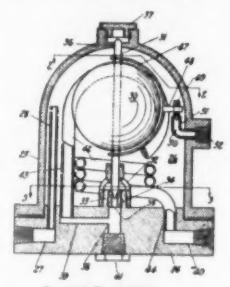
In a thermostatic switch, a bimetal coiled strip, means for anchoring the strip at one end and a mercury switch supported entirely by the other end of the bimetal coil, an arm for angularly moving the coiled strip to adjust the operation of the switch to a predetermined temperature, a shell containing the coiled strip, the shell having dampered openings for adjusting the responsiveness of the switch.

1,829,979. METHOD OF MAKING FINNED TUBES. Harry W. Bundy, Detroit, Mich., assignor, by mesne assignments, to Bundy Tubing Co., Detroit, Mich., a Corporation of Michigan. Filed Dec. 30, 1927. Serial No. 243,511. Renewed April 8, 1931. 4 Claims. (Cl. 113—35.)

1. The method of providing a helical fin on a preformed tube, which comprises winding helical fin stock on the tube with sufficient initial tightness to partially collapse the body of the tube thus to provide a helical groove in the body of the tube in which the fin seats.

1,830,022. EXPANSION VALVE CONTROL. Wilfred Fourness, Oakland, Calif., assignor, by mesne assignments, to The Fourness Development Corp., New York, N. Y., a Corporation of New York. Filed Nov 1, 1926. Serial No. 145,635. 11 Claims. (Cl. 62—8.)

1. In combination, a container in which liquid refrigerant is arranged to be collected, means forming a valved chamber into which said container discharges, a valve controlling an outlet from said chamber, means forming an expansion space to which



1,830,022

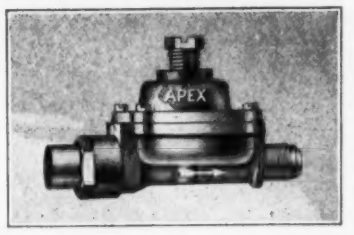
the refrigerant is passed through said valve, and means for producing a cooling effect in the valved chamber to ensure that the liquid in the container will be emptied therein.

1,830,034. REFRIGERATING APPARATUS. Herman F. Lehman, Dayton, Ohio, assignor to Frigidaire Corp., Dayton, Ohio, a Corporation of Delaware. Filed July 31, 1930. Serial No. 471,955. 7 Claims. (Cl. 62—95.)

4. A refrigerating apparatus comprising in combination, a cabinet, a partition dividing said cabinet into a plurality of compartments, said compartments being substantially filled with a non-congealable liquid, an evaporator disposed in said non-congealable liquid and having a float valve mechanism therein for maintaining a substantially constant level of liquid refrigerant therein, said evaporator extending into both of said compartments, fins on a portion of said evaporator for causing the cooling effect produced by said evaporator within one of said compartments to be greater than in the other of said compartments.

1,830,044. REFRIGERATING APPARATUS. Bernard J. Vandoren, Dayton, Ohio, assignor to Frigidaire Corp., Dayton, Ohio, a Corporation of Delaware. Filed March 31, 1930. Serial No. 440,585. 6 Claims. (Cl. 62—1.)

1. A refrigerating apparatus comprising a cooling chamber, a shelf therein for articles to be cooled, slideways depending from said shelf, a receptacle slidable on said slideways, a cover for said receptacle supported by said receptacle, and means for retaining said cover in position when the receptacle is being slid.



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STREAMLINE Coupling — Copper to Outside, I. P. S. — Patent 1,770,852. Patent 1,776,502 Other patents pending.

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